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## The Influence of Systems Analysis on Criminal Law and Procedure: A Critique of a Style of Judicial Decision-Making

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# COLUMBIA LAW SCHOOL

## FALL 2013 THURSDAY FACULTY WORKSHOP SERIES

Thursday, December 5, 2013

Bernard Harcourt

Presents

### ***“THE INFLUENCE OF SYSTEMS ANALYSIS ON CRIMINAL LAW AND PROCEDURE: A CRITIQUE OF A STYLE OF JUDICIAL DECISION-MAKING”***

*Case Lounge, Jerome Greene Hall*

*Catered Lunch to begin at 12:00 p.m.*

*Presentation to begin at 12:15 p.m.*

*Discussion to follow until 1:10 p.m.; informal conversation until 1:30 p.m.*

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<b>Date</b>		<b>Presenter</b>	<b>Paper</b>
September	5	N/A	N/A
	12	Peter Strauss	<i>Private Standards Organizations and Public Law</i>
	19	Olati Johnson	<i>64 at 50</i>
	26	David Pozen	<i>Traces of Self-Help: Countermeasures in Constitutional Law</i>
October	3	Michael Heller & Hanoch Dagan	<i>Freedom of Contracts</i>
	10	Richard Squire	<i>Clearinghouses and the Rapid Resolution of Bankrupt Financial Firms</i>
	17	Justice Aharon Barak	<i>Chapter Seven: The Models for Determining the Content of the Constitutional Value of Human Dignity</i>
	24	Gillian Metzger	<i>The Constitutional Status of Administration and the Duty to Supervise</i>
	31	Matt Waxman	<i>The Constitutional Power To Threaten War</i>
November	7	Ron Gilson	<i>Contracting About Private Benefits of Control</i>
	14	David Schizer	<i>A Framework for Limiting Tax Expenditures: Programmatic Incentives, Excess Burden, and Distribution</i>
	21	Philip Hamburger	<i>The Inversion of Rights and Power</i>
	26	Liz Emens *Thursday talk on a Tuesday	<i>Relational Admin</i>
	28	Thanksgiving	N/A
<b>December</b>	<b>5</b>	<b>Bernard Harcourt</b>	<b><i>THE INFLUENCE OF SYSTEMS ANALYSIS ON CRIMINAL LAW AND PROCEDURE: A CRITIQUE OF A STYLE OF JUDICIAL DECISION-MAKING</i></b>

\*\*\* PRELIMINARY DRAFT \*\*\*

THE INFLUENCE OF SYSTEMS ANALYSIS ON CRIMINAL LAW AND PROCEDURE

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A CRITIQUE OF A STYLE OF JUDICIAL DECISION-MAKING

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UNIVERSITY OF CHICAGO

For presentation at the Faculty Workshop Series  
Columbia Law School  
December 5, 2013

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THE INFLUENCE OF SYSTEMS ANALYSIS ON CRIMINAL LAW AND PROCEDURE:  
A CRITIQUE OF A STYLE OF JUDICIAL DECISION-MAKING

Bernard E. Harcourt<sup>1</sup>

TABLE OF CONTENTS

|                                                                                  |    |
|----------------------------------------------------------------------------------|----|
| INTRODUCTION                                                                     | 2  |
| I. THE EMERGENCE AND RISE OF SYSTEMS ANALYSIS                                    | 3  |
| A. <i>The Logic of Systems Analysis</i>                                          |    |
| B. <i>The Expansion of Systems Analysis</i>                                      |    |
| C. <i>The Influence of SA on the Study of Public Policy</i>                      |    |
| II. SYSTEMS ANALYSIS AND CRIMINAL JUSTICE                                        | 10 |
| A. <i>The New York City RAND Institute</i>                                       |    |
| B. <i>Liechtenstein's 1971 RAND Report</i>                                       |    |
| C. <i>CJS-Systems Analysis in Context</i>                                        |    |
| III. THE INFLUENCE OF SYSTEMS ANALYSIS ON CRIMINAL LAW<br>AND CRIMINAL PROCEDURE | 17 |
| A. <i>The Internal Approach: Models of the Criminal Justice System</i>           |    |
| B. <i>The External Approach: Deference to the Criminal Justice System</i>        |    |
| IV. A CRITIQUE OF SYSTEMS ANALYSIS                                               | 36 |
| A. <i>The Problem with Systems Analysis</i>                                      |    |
| B. <i>Demonstration: A Simplified Proof</i>                                      |    |
| V. THE PROBLEM IN CRIMINAL LAW AND CRIMINAL PROCEDURE                            | 46 |
| VI. A CODA ON MODERN PUNISHMENT PRACTICES:<br>THE CASE OF MASS INCARCERATION     | 49 |
| CONCLUSION                                                                       | 53 |

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## INTRODUCTION

At the height of the Cold War in the late 1950s and early 1960s, a decision-making technique called “systems analysis” was perfected and began to be applied broadly to matters of national defense strategy and government policy. The brain child of the RAND Corporation, systems analysis extended the logic of “operations research,” which had been developed during World War II, from its earlier narrow focus on weapon systems to broader matters of defense strategy, government, and social policy. The systems analytic approach, as its name suggests, would focus on a particular social system, identify the objectives of that particular system, and compare and evaluate the possible alternative ways of optimizing those objectives.

Systems analysis had a formative impact on government decision-making and on the field of public policy. In 1961, Secretary of Defense Robert S. McNamara imposed the method of systems analysis broadly on defense department decision-making, from weapon systems procurement to national defense strategy, under the rubric of “Planning, Programming, Budgeting Systems analysis” or “PPBS.” Within a few years, President Lyndon B. Johnson directed his budget director to implement PPBS throughout all federal agencies, extending the reach of systems analytic methods throughout the federal government. A series of executive orders under Presidents Jimmy Carter, Ronald Reagan, and Bill Clinton would further entrench the use of systems analytic techniques, as would developments in schools of public policy.

Systems analysis would also significantly shape the field of criminal justice. It is largely responsible for crystalizing the notion of a “criminal justice system” that, today, grounds practically all research and practice in the area. Because of this, systems analysis had an important influence on the field of criminal law and criminal procedure. It contributed to a significant shift away from viewing the criminal sanction as an exercise of sovereign right to viewing it instead within a systems analytic framework. Relatedly, it influenced and helped shape a style of judicial decision-making and legal reasoning.

Precisely when systems analysis was in crescendo in the 1960s, a number of judges and legal scholars began to embrace a systems analytic approach to judicial decision-making and legal reasoning. It is an approach that assumes the existence of a “criminal justice system,” with particular functions and objectives, and that orients itself toward optimizing those systemic objectives. The approach can take either of two forms: (1) what I would call an “internal” approach in which the judicial decision-maker views him or herself and the surrounding legal structures (the legal institutions and practices) as

an integral part of the “criminal justice system” and consequently tries to optimize the functioning of that integrated system with the objective, say, of controlling crime, improving the efficient management of populations, or otherwise enhancing the functionality of the system; and (2) what I would call an “external” form in which the judicial decision-maker views him or herself and other legal actors as outsiders to the “criminal justice system” and consequently defers to the actors within the system (such as the police, corrections officials, parole board, etc.).

The reliance on systems analytic reasoning in criminal law and criminal procedure, however, reproduces a number of the technical weaknesses of systems analysis. More specifically, the adoption of a systems analytic approach privileges systems-related interests, particularly the more quantifiable ones, over the competing concerns that are at issue in the context of the criminal sanction—and it does so under the guise of neutral and objective science. In elevating systems-related interests over other values, it produces a false dichotomy between objective system needs and subjective values that is fundamentally corrosive to the decision-making process and to the larger social outcomes, because it prevents a full articulation, open discussion, and comprehensive weighing of the values that ground our constitutional union.

Exploring the influence of systems analytic reasoning on criminal law and procedure and identifying the specific flaws of systems analysis may allow us to move beyond this problematic style of judicial decision-making. Specifically, by thinking critically about the technical weaknesses of systems analysis, we may be able to move past the systems analytic approach toward a more capacious and promising way to theorize and resolve matters of crime and punishment: a way forward that would effectively discard the misleading notion of a “criminal justice system” in order to embrace a wider consideration of the values that are implicated by the criminal sanction.

## I. THE EMERGENCE AND RISE OF SYSTEMS ANALYSIS

Military weapon systems analysis, or what was originally called “Operations Research,” or simply “OR,” was developed during World War II as a way to “provide quantitative aids to defense decision makers” with the goal of “optimizing the operational employment of existing weapons (or other military) systems.”<sup>2</sup> The “distinctive approach,” according to the Operational Research Society of Great Britain, was “to develop a scientific model of the system, incorporating measurements of factors such as change and risk, with which to predict and compare the outcomes of alternative decisions, strategies or controls.”<sup>3</sup> Famous early applications of operations research

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<sup>2</sup> Bruce L. R. Smith, *The RAND Corporation; case study of a nonprofit advisory corporation*. Cambridge: Harvard University Press, 1966, p. 6.

<sup>3</sup> In the United Kingdom, where OR largely originated, it was called “operational research.” This definition is from the Operational Research Society of Great Britain, *Operational Research Quarterly*, 13(3):282

included studies of the placement and use of aircraft-detection radar devices and of anti-submarine tactics involving depth-charge explosions in the early phases of the Second World War.<sup>4</sup> Eventually, operations research would apply the same mathematical algorithms and models to larger management problems, such as the efficient determination of transportation routes or warehouse stock control.<sup>5</sup> From this larger perspective, operations research can best be understood, again in the words of the Operational Research Society of Great Britain, as “the attack of modern science on complex problems arising in the direction and management of large systems of men, machines, materials and money in industry, business, government and defense.... The purpose is to help management determine its policy and actions scientifically.”<sup>6</sup> The only question is how to optimize efficiency where the measure of efficiency is clearly defined, or, as Edward S. Quade of the RAND Corporation would explain, how “to increase the efficiency of a man-machine system in a situation where it is clear what ‘more efficient’ means.”<sup>7</sup>

During the 1950s, Quade, Alain Enthoven, Charles Hitch, and others at the RAND Corporation would extend this method of analysis from the narrow field of operations research, where it had originated, to defense strategy more broadly—essentially, from deciding, for instance, the optimal altitude for a bombing mission to determining broader nuclear engagement policies. The broader application would become known as “Systems Analysis.” Systems analysis was often confused with operations research, from which it evolved, but it was distinct in several regards. Operations research tended to have more elaborate mathematical models and solved lower level problems;<sup>8</sup> in systems analysis, by contrast, the pure mathematical computation was generally applied only to subparts of the overall problem. Moreover, systems analysis took on larger strategic questions that implicate choices between major policy options. In this sense, systems analysis was, from its inception, “less quantitative in method and more oriented toward the analysis of broad strategic and policy questions, [...] particularly [...] seeking to clarify choice under conditions of great uncertainty.”<sup>9</sup>

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(1962), available in the Glossary of Cybernetics and Systems [http://www.wata.cc/forums/uploaded/136\\_1167433681.pdf](http://www.wata.cc/forums/uploaded/136_1167433681.pdf). For a history of Operations Research, see Maurice W. Kirby, *Operational Research in War and Peace: The British Experience from the 1930s to 1970*, Imperial College Press 2003; S.M. Amadae, *Rationalizing Capitalist Democracy: The Cold War Origins of Rational Choice Liberalism* (Chicago: University of Chicago Press, 2003).

<sup>4</sup> Smith, *The Rand Corporation; case study of a nonprofit advisory corporation*, 1966, pp. 6-7.

<sup>5</sup> Edward S. Quade, *Systems analysis techniques for planning-programming-budgeting*. Santa Monica, Calif.: Rand Corp., 1966; p. 3.

<sup>6</sup> *Operational Research Quarterly*, 13(3): 282 (1962).

<sup>7</sup> Quade, *Systems analysis techniques for planning-programming-budgeting*, 1966, p. 3.

<sup>8</sup> Smith, *The Rand Corporation; case study of a nonprofit advisory corporation*, 1966, p. 8.

<sup>9</sup> Smith, *The Rand Corporation; case study of a nonprofit advisory corporation*, 1966, p. 8

### A. The Logic of Systems Analysis

The logic of systems analysis is simple and was depicted, most clearly, in a RAND model, Figure 1 of Edward Quade's RAND Report P-3322 on "Systems Analysis Techniques for Planning-Programming-Budgeting" from March 1966.<sup>10</sup> Quade's graphics capture best the five key steps of the analytic decision-making method developed in the 1950s and 60s—a method that privileged quantification, modeling, statistical analysis, and a cost-benefit approach.

By way of background and motivating the model, the decision-maker had to have identified a particular problem to address within a particular social sphere—or "system"—and to have a clear idea of the system's objectives. With the objectives in mind, the decision-maker would then set the proper criterion to evaluate different promising policy alternatives. There would be five steps to the process:

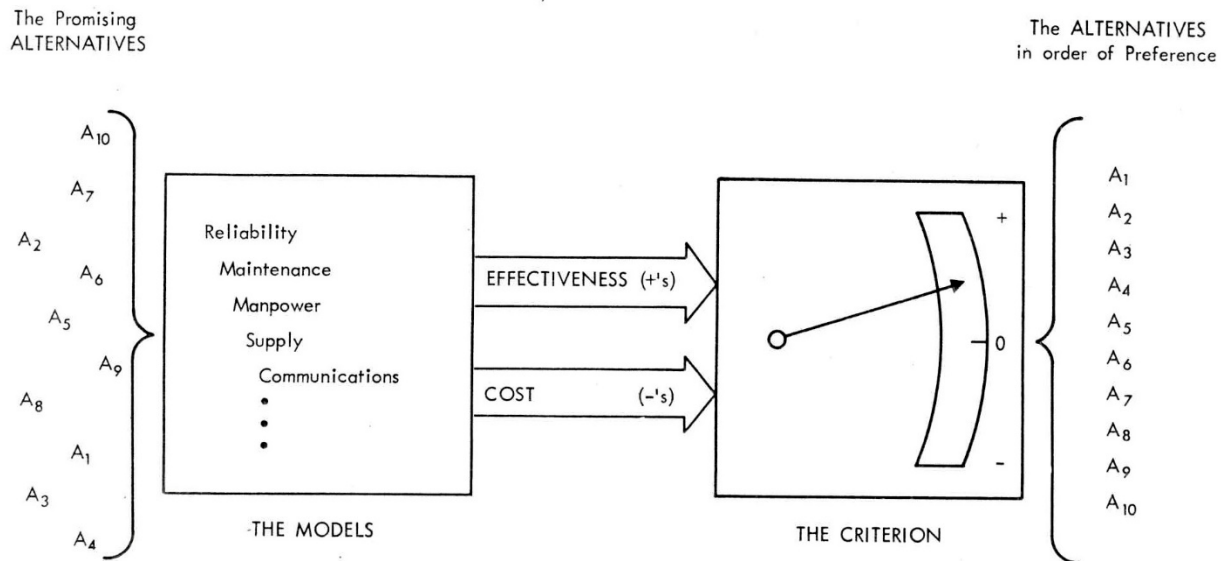


Fig.1—The structure of analysis

Step 1, the input, is the set of promising policy alternatives, each of which could possibly advance the objectives of the system. Each alternative policy is then filtered through a model or a set of models to assess its individual attributes in terms, for example, of maintenance costs, manpower requirements, communication capabilities, etc. This produces each policy's level of effectiveness and cost, which can then be compared using a metric, "the criterion," which will turn out, as the output, the relative rank of each policy compared to the others. The output, in the far right column at step 5, is the correct

<sup>10</sup> Edward S. Quade, *Systems analysis techniques for planning-programming-budgeting*. Santa Monica, Calif.: Rand Corp., 1966.



ordinal ranking of the policy alternatives—or what is, in effect, a full ranking of “The ALTERNATIVES in order of Preference.”<sup>11</sup>

In order to perfect the method, the operation can be reiterated, testing for sensitivity, questioning assumptions, reexamining objectives, exploring new alternatives, and tweaking the model again and again:<sup>12</sup>

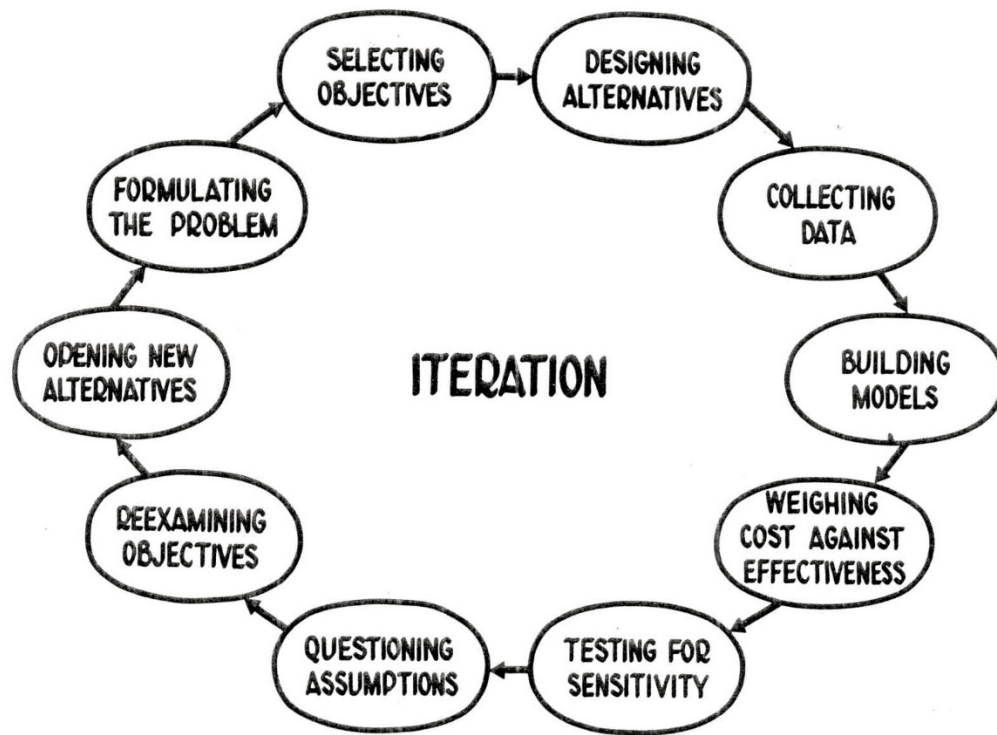


Fig.2—The key to analysis

Edward Quade of the RAND Corporation would present his model of a policy-machine—or, in his words, what “is frequently called a cost-effectiveness analysis... or, alternatively, cost-utility and cost-benefit analyses”<sup>13</sup>—to federal bureaucrats in a course titled “Executive Orientation in Planning, Programming, and Budgeting” sponsored by the United States Bureau of the Budget and the Civil Service Commission in late February 1966. “Our purpose,” Quade emphasized, “is to discuss the question of

<sup>11</sup> Quade, *Systems analysis techniques for planning-programming-budgeting*, 1966, p. 9.

<sup>12</sup> Quade, *Systems analysis techniques for planning-programming-budgeting*, 1966, pp. 10-11.

<sup>13</sup> Quade, *Systems analysis techniques for planning-programming-budgeting*, 1966, p. 5 and n.\*

extending military systems analysis to the civilian activities of the government.”<sup>14</sup> Quade would offer this concise definition of systems analysis:

A systems analysis is an analytic study designed to help a decision maker identify a preferred choice among possible alternatives. It is characterized by a systematic and rational approach, with assumptions made explicit, objectives and criteria clearly defined, and alternative courses of action compared in the light of their possible consequences. An effort is made to use quantitative methods but computers are not essential. What is essential is a model that enables expert intuition and judgment to be applied efficiently.<sup>15</sup>

As this definition makes clear, there are two connotations to the term “systems” embedded in systems analysis: first, there is the idea that there exists a subset of practices and institutions that relate to each other as a “system” and that need to be analyzed separately from other social practices and institutions. Along this first dimension, the analysis focuses on a particular system—such as health care or criminal justice—in order to optimize its functionality. Second, there is the notion of “*systems* analysis” that involves a particular type of analysis—concerning a model and criterion—of an identified social problem. Though they can be distinguished, these two connotations are imbricated and are both integral parts of the systems analytic approach: the central idea, in effect, is to choose a policy that will maximize the functionality of a system.

#### B. *The Expansion of Systems Analysis*

Secretary of Defense McNamara would impose systems analysis under the rubric of “Planning-Programming-Budgeting Systems” analysis on all military procurement and defense strategy immediately upon taking office under President Kennedy in 1961. That first round of expansion—from narrow operations research on weapons systems to broader applications of systems analysis of defense strategy—generated a lot of resistance within the military establishment, targeted primarily at the controversial figure of McNamara himself. But, in Quade’s opinion, by 1966 “there ha[d] been substantial progress, and the years since 1961 have seen a marked increase in the extent to which analysis of policy and strategy have influenced decisionmakers on the broadest issues of national defense.”<sup>16</sup> President Lyndon B. Johnson would expand the reach of systems analysis even further, announcing in a statement to members of his cabinet and heads of federal executive agencies on August 25, 1965, that he had directed his budget director, Charles Schultze, to implement the new PPBS method throughout all federal agencies. Johnson emphasized that the new method would “identify national goals with precision and on a continuing basis,” help “search for alternative means of reaching those goals most effectively at the least cost,” and accurately “measure the performance of programs

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<sup>14</sup> Quade, *Systems analysis techniques for planning-programming-budgeting*, 1966, p. 2.

<sup>15</sup> Quade, *Systems analysis techniques for planning-programming-budgeting*, 1966, p. 28.

<sup>16</sup> Quade, *Systems analysis techniques for planning-programming-budgeting*, 1966, p. 2.

to insure a dollars worth of service for each dollar spent.”<sup>17</sup> Through a further series of executive orders, Presidents Jimmy Carter, Ronald Reagan, and Bill Clinton would eventually expand the use of systems analysis, requiring all executive agencies to make economic impact studies of all major government regulations.<sup>18</sup>

This expansion of systems analysis to all governmental decision-making was significant—or, in Edward Quade’s words, “possibly even more radical” than the earlier development of operations research.<sup>19</sup> It carried the possibility of major repercussions. As Quade explained, alternative policies are not always “obvious substitutes for one another,” nor do they always “perform the same specific function.”<sup>20</sup> Nevertheless, he observed, “education, antipoverty measures, police protection, and slum clearance may all be alternatives in combating juvenile delinquency.”<sup>21</sup> Any one of them could be called for by PPBS analysis. Moreover, systems analysis could give us the tools to decide whether, as Quade noted, “additional money might be better spent on space exploration or economic opportunity programs”;<sup>22</sup> or whether to “reduce unemployment to less than 2% in two years or add a certain number of miles to the interstate highway system.”<sup>23</sup> In effect, according to its proponents, systems analysis would allow policy-makers to put aside partisan politics, personal preferences, subjective values, and overinflated expectations. As a colleague at RAND and later Secretary of Defense, James R. Schlesinger, would explain: “[Systems analysis] eliminates the purely subjective approach on the part of devotees of a program and forces them to change their lines of argument. They must talk about reality rather than morality.”<sup>24</sup> With systems analysis, Schlesinger argued, there was no longer any need for political wrangling, for value judgments, nor for practical experience—in effect, no need for Aristotelian virtues such as *phronesis*, nor for Machiavellian notions of *virtù*. The right answer emerged from the machine-model that evaluates cost and effectiveness; all that was needed was a narrow and precise objective.

### C. *The Influence of Systems Analysis on the Study of Public Policy*

It is fair to say that, today, the method of systems analysis has entered the mainstream of public policy analysis, has been generalized, and has become somewhat second-nature. What was once technical systems analysis has become, today, the

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<sup>17</sup> United States General Accounting Office, *Survey of progress in implementing the planning-programming-budgeting system in executive agencies; report to the Congress*, Washington, DC. 1969, p. 4.

<sup>18</sup> See President Carter’s executive order E.O. 12044 (tasking all executive agencies with the duty to conduct economic impact studies of all major government regulations); President Reagan’s executive order E.O. 12291 (assigning the responsibility to the Office of Management and Budget); President Bill Clinton’s executive order E.O. 12866 (on the “Economic Analysis of Federal Regulations” (1996)).

<sup>19</sup> Quade, *Systems analysis techniques for planning-programming-budgeting*, 1966, p. 2.

<sup>20</sup> Quade, *Systems analysis techniques for planning-programming-budgeting*, 1966, p. 7.

<sup>21</sup> Quade, *Systems analysis techniques for planning-programming-budgeting*, 1966, p. 7.

<sup>22</sup> Quade, *Systems analysis techniques for planning-programming-budgeting*, 1966, p. 18.

<sup>23</sup> Quade, *Systems analysis techniques for planning-programming-budgeting*, 1966, pp. 4-5.

<sup>24</sup> James R. Schlesinger, “Quantitative Analysis and National Security,” *World Politics*, XV(2) (1963), p. 1963.

canonical approach to public policy. As Edward Rubin observes, “The components of an optimal public policymaking process are well known and generally agreed upon”<sup>25</sup>; they include, first, selecting a problem, second, finding the range of alternative policies, third assessing each one, and fourth, ranking them—or, in Rubin’s own words:

First, the decision maker should define the problem to be solved. The next step is to generate a range of possible alternatives that might potentially resolve the problem. Each alternative is then assessed for its potential effectiveness on the basis of the available information. Then the decision maker chooses the most promising alternative; the more information and analysis that can be brought to bear on the decision, the more likely it will be that the most effective alternative will be selected. Once the choice is made, it must be implemented...<sup>26</sup>

This is, of course, a more informal but exact articulation of the RAND model. And it is generally considered *the* “optimal” public policymaking process, according to leading public policy figures, including Eugene Bardach, Thomas Birkland, John Friedman, Lewis Zekhauser, and Deborah Stone.<sup>27</sup> As Rubin emphasizes, it is “the decision making sequence that is widely recognized in our society as the most promising way to make public policy.”<sup>28</sup>

Stone and Zekhauser set forth the sequence as follows in their canonical text on public policy analysis, *A Primer for Policy Analysis*:<sup>29</sup>

1. *Establishing the Context*. What is the underlying problem that must be dealt with? What specific objectives are to be pursued in confronting this problem?
2. *Laying Out the Alternatives*. What are the alternative courses of action? What are the possibilities for gathering further information?
3. *Predicting the Consequences*. What are the consequences of each of the alternative actions? What techniques are relevant for predicting these consequences? If outcomes are uncertain, what is the estimated likelihood of each?
4. *Valuing the Outcomes*. By what criteria should we measure success in pursuing each objective? Recognizing that inevitably some alternatives will be

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<sup>25</sup> Edward L. Rubin, “Public Policy and the Methodology of Statutory Design,” work-in-progress draft dated September 9, 2013, presented at the Columbia Law School Legal Theory Workshop at Columbia Law School on Monday, September 30, 2013, draft p. 38.

<sup>26</sup> Rubin, 2013, p. 38. Rubin fleshes out this schema in step-by-step detail on pages 49 through 60 of his draft. More simply, though, he writes: the public policy approach “define[s] the problem, generate[s] alternatives, evaluate[s] at least the most promising alternatives, and reach[es] a decision on the basis of that evaluation.” *Id.*, at p. 39.

<sup>27</sup> See Rubin, 2013, p. 38 n. 151.

<sup>28</sup> Rubin, 2013, p. 40.

<sup>29</sup> Edith Stokey and Richard Zeckhauser, *A Primer for Policy Analysis* (New York: Norton & Co., 1978).

superior with respect to certain objectives and inferior with respect to others, how should different combinations of valued objectives be compared with one another?

5. *Making a Choice*. Drawing all aspects of the analysis together, what is the preferred course of action?<sup>30</sup>

Underlying this approach and its generalization, there is an idea that in practically all domains there is a policy space within which it is possible to use this policy method to achieve better results, to be more effective, to get it right—or, in Rubin’s words, to “do a better job in that inevitable social engineering in which we engage in all the time.”<sup>31</sup> What the policy approach does is to try to magnify the policy space in order to incrementally improve decision-making—in the very same way in which systems analysis tried to extend its reach from the narrow confines of military operations research to the entire administrative state. As Rubin writes: “the more information and analysis that can be brought to bear on the decision, the more likely it will be that the most effective alternative will be selected.”<sup>32</sup> What is clear is that systems analytic approaches have shaped the contemporary study of public policy. They would also shape the study of crime and punishment.

## II. SYSTEMS ANALYSIS AND CRIMINAL JUSTICE

During the Progressive Era, reformers had already gravitated toward the notion of systems, especially with regard to the treatment of juvenile offenders. One of the first uses of the term “criminal justice system” occurred in a 1939 report on *Youth in the Toils*, a study conducted on behalf of The Delinquency Committee of the New York City Boys Bureau, an organization that addressed the problems of homeless youth. In the immediately following years, the expression “criminal justice system” would be used in several other publications, each time to refer again to the issue of juvenile delinquency. The expression was used, for instance, in a 1941 issue of *Federal Probation*,<sup>33</sup> a 1942 issue of the *American Bar Association Journal* titled “The Criminal Youth Problem,”<sup>34</sup> and a 1942 article in *Law and Contemporary Problems*, “Existing Provisions for the Correction of Youthful Offenders.”<sup>35</sup>

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<sup>30</sup> Stockey and Zeckhauser, 1978, pp. 5-6.

<sup>31</sup> Rubin comments at Columbia Law School Legal Theory Workshop, September 30, 2013.

<sup>32</sup> Rubin, p. 38.

<sup>33</sup> John R. Ellingston, “Protecting Our Children from Criminal Careers,” *Federal Probation*, Vol. 5(4):62, 1940.

<sup>34</sup> Orrie L. Phillips, “The Criminal Youth Problem,” *American Bar Association Journal*, Vol. 28(9):582, 1942.

<sup>35</sup> Austin H. MacCormick, “Existing Provisions for the Correction of Youthful Offenders,” *Law and Contemporary Problems*, Vol. 9(4):597, 1942.

But these loose references to a criminal justice system would gain new analytic power with the emergence of systems analysis, such that, by the second half of the twentieth century, the field of criminal justice began to be understood as a relatively enclosed system in which particular sets of actors (policemen, prosecutors, judges, probation officers, correctional guards, wardens, parole board members, etc.) operate a defined set of institutions (police, courts, jails, prisons, parole supervision, etc.) to promote a distinct set of systems objectives (crime control, population management, service needs, etc.) and to produce a functioning structure of criminal justice.

Systems analysis played an important role in crystalizing the notion of a “criminal justice system.” A genealogic link can be traced at both the individual and institutional levels. Alfred Blumstein, for instance, a towering figure in American criminology, himself began as an operations researcher and was president of the Operations Research Society of America (ORSA)—and tellingly, his appointment at Carnegie Mellon is as University Professor of Urban Systems and Operations Research.

In a fascinating memoir titled “An OR Missionary’s Visits to the Criminal Justice System,”<sup>36</sup> Blumstein refers to himself as an “OR Missionary” and traces his missionary activities in the area of criminal justice. Reflecting back on his trajectory, Blumstein would write that “the missionary function was an important role of OR, and so I encouraged OR folks to look to missionary opportunities. That was well before I immersed myself fully in missionary activity with the criminal justice system.”<sup>37</sup> Blumstein viewed his “missionary role,” in his own words, as “bringing OR perspectives to the ‘heathens’ in a particular domain—those who have not yet adopted quantification, modeling, system perspectives, and planning that characterize the hallmark of OR.”<sup>38</sup>

Blumstein was not alone. As he observed, “there have been many other OR people, particularly Arnold Barnett, Jon Caulkins, Jan Chaiken, Peter Greenwood, Richard Larson, and Michael Maltz, who have had their own experiences with the CJS [criminal justice system], and many of them have received honors from the OR community as well as the CJS community.”<sup>39</sup> A lengthy and useful review of OR contributions to the criminal justice system is provided in Michael Maltz’s 1994 chapter on “Operations research in studying crime and justice: Its history and accomplishments.”<sup>40</sup>

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<sup>36</sup> Alfred Blumstein, “An OR Missionary’s Visits to the Criminal Justice System,” *Operations Research*, 55(1):14-23 (2007).

<sup>37</sup> Blumstein, “An OR Missionary’s Visits to the Criminal Justice System,” 2007, p. 14.

<sup>38</sup> Blumstein, 2007, p. 14.

<sup>39</sup> Blumstein, 2007, p. 22.

<sup>40</sup> Michael Maltz, “Operations research in studying crime and justice: Its history and accomplishments,” in Stephen Pollock, Michael Rothkopf, Arnold Barnett, eds. *Operations Research in the Public Sector*, Vol. 6. *Handbooks in Operations Research and the Management Sciences*. North-Holland, Amsterdam, The Netherlands (1994).

But one could also trace an institutional genealogy and locate it right here in New York City during the 1970s.

#### A. *The New York City RAND Institute*

John Lindsay was elected mayor of New York City in 1966 and took office promising to reform city government with more efficient cost-benefit budgeting—specifically, with Planning-Programming-Budgeting System analysis. Mayor Lindsay intended to bring the new PPBS technique to New York City “to improve budgeting and operations.”<sup>41</sup>

At the time, violent crime in the City was on the rise.<sup>42</sup> The crime problem was particularly acute in public housing projects and so-called “welfare hotels.”<sup>43</sup> Mayor Lindsay invited the RAND Corporation to develop new strategies to reduce and prevent crime; and within a few years, Lindsay had helped establish the New York City RAND Institute as a joint project of the City and RAND Corporation.<sup>44</sup>

In January 1968, Mayor Lindsay hailed New York City’s new arrangement with the RAND Corporation to tackle crime prevention in the City:

This agreement will greatly assist our introduction into city agencies of the kind of streamlined, modern management thinking that Robert McNamara applied in the Pentagon with such success during the past seven years. ... I regard this as the most important development in the search for effectiveness in city government in many, many years.<sup>45</sup>

With crime on the rise, the primary focus of the RAND satellite would be the New York City Police Department. At a news conference on January 8, 1969, Mayor Lindsay and Henry Rowen, the president of RAND and previously Deputy Assistant Secretary of Defense under McNamara, unveiled the new project with great fanfare: an

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<sup>41</sup> Jennifer S. Light, *From Warfare to Welfare: Defense Intellectuals and Urban Problems in Cold War America*. (Baltimore: Johns Hopkins University Press, 2003) at p. 67. For an excellent history of the emergence of these techniques and rationalities, see S.M. Amadae, *Rationalizing Capitalist Democracy: The Cold War Origins of Rational Choice Liberalism* (Chicago: University of Chicago Press, 2003).

<sup>42</sup> By the early 1970s, violent crime in New York City had increased sharply, with homicide rates up an order of magnitude from around 4 per 100,000 inhabitants in the early 1960s to over 19 per 100,000 by 1972. See FBI Uniform Crime Reports for New York City (rate of murder and non-negligent manslaughter per 100,000 residents).

<sup>43</sup> See, e.g., Jack Rosenthal, “Housing Study: High Rise = High Crime,” *New York Times*, October 26, 1972; Max H. Seigel, “Welfare-Hotel Crime Is a Local Problem,” *New York Times*, November 19, 1972; Joseph B. Treaster, “A Growing Cloud of Fear Darkens a Brooklyn Project,” *New York Times*, March 22, 1975. Crime was becoming a major topic of media attention and political races. See Richard F. Shepard, “Poll Finds Added Worry On Crime and Its Control,” *New York Times*, October 29, 1974; David Burnham, “Most Call Crime City’s Worst Ill,” *New York Times*, January 16, 1974.

<sup>44</sup> Light, *From Warfare to Welfare*, 2003, pp. 68-72.

<sup>45</sup> Reeves, *New York Times*, January 10, 1969, p. 31.

initial contract with the City worth \$607,000, a Madison Avenue office “staffed by 40 economists, sociologists, engineers, cost analysts and other researchers,” and four focus areas, the most important of which would be the NYPD (the other three being the fire department, housing administration, and health services).<sup>46</sup> Everyone expected a tight collaboration. As the *New York Times* suggested, “The city’s relationship with RAND would be similar to the one RAND has had with the Air Force since World War II”<sup>47</sup>—one could hardly imagine a tighter relationship than that.

Once established, the New York City RAND Institute immediately began to tackle the crime problem with a number of reports and recommendations about how to improve the efficiency of police services. The first series of reports were extremely narrow operations research-type reports, with titles such as “A Hypercube Queueing Model for Facility Location and Redistricting in Urban Emergency Services” (Richard C. Larson, R-1238-HUD, 1973), “Response of Emergency Units: The Effects of Barriers, Discrete Streets, and One-Way Streets” (Richard C. Larson, R-675-HUD, 1971), “Allocation of Emergency Units Response Areas” (Jan M. Chaiken, P-4745, 1971), “Analysis of the Night and Weekend Arraignment Parts in the Bronx and Queens Criminal Courts” (John B. Jennings, R-1236-NYS, 1973), “Using Simulation To Develop and Validate Analytical Emergency Service Deployment Models” (Edward Ignall, Peter Kolesar, and Warren Walker, P-5463, 1975), and “Determining the Travel Characteristics of Emergency Service Vehicles” (J. Hausner, R-1687-HUD, 1975). These studies applied complex mathematical models to examine minute dispatching and routing efficiencies. They resembled the classic early applications of operations research outside the military to matters such as determining “how Post Office pick-up trucks should be routed to collect mail from deposit boxes, or whether computers should be rented or purchased, or what type of all-weather landing system should be installed in new commercial aircraft.”<sup>48</sup>

Gradually and interspersed in these operation research-type reports, there emerged a number of systems analysis-type studies. The contours of the approach were captured well by the *New York Times* in 1968 when it defined it as the “method of analyzing a problem by listing the desired objectives and available resources and then detailing alternative methods of using the resources to accomplish the objectives.”<sup>49</sup> RAND’s systems analytic studies did indeed focus on a narrow objective—preventing crime—and they would embrace a wide range of different alternative policies to try to determine the most efficient. And so, within a few years, with crime on the rise and a ready method at hand, RAND and the NYC RAND Institute were deeply involved in problem-solving crime in public housing using a systems analysis approach.

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<sup>46</sup> Reeves, *New York Times*, January 10, 1969, p. 31; Jennifer S. Light, *From Warfare to Welfare : Defense Intellectuals and Urban Problems in Cold War America*, 2003, pp. 68-70.

<sup>47</sup> Reeves, *New York Times*, January 10, 1969, p. 31.

<sup>48</sup> Quade, *Systems analysis techniques for planning-programming-budgeting*, 1966, p. 18.

<sup>49</sup> Reeves, *New York Times*, January 10, 1969, p. 31.



### B. *Liechenstein's 1971 RAND Report*

An illustrative study was Michael I. Liechenstein's report issued in June 1971, which addressed the objective of, as the title suggests, "Reducing Crime in Apartment Dwellings: A Methodology for Comparing Security Alternatives."<sup>50</sup> The study, which was sponsored by Mayor Lindsay's Criminal Justice Coordinating Council, analyzed techniques for improving security in New York City Housing Authority buildings. It took a "broad operational view of a security system,"<sup>51</sup> analyzing fifteen alternative policies, including tenant training and education, tenant patrols, tenant qualifications to live in the projects, extended recreational opportunities for teenagers, rent rebates, elaborate building-entry restrictions, locked lobbies, intrusion detectors, weapon detectors, surveillance, and increased police or guard manning.

In order to compare the alternatives, the study developed "effectiveness criteria" and then coupled those to "compatibility and cost criteria to derive estimates of an overall figure of merit (e.g., the ration of effectiveness-to-cost with a constraint on either minimum effectiveness or maximum cost)."<sup>52</sup> In addition to the security effectiveness and compatibility criteria, the report also listed cost-benefit criteria: "Research and development cost (equipment, maintenance, administration before production); Capital cost (equipment, maintenance, and administrative costs during production); Operating cost (equipment, maintenance, administration costs during use); Scrap value (residual value at end of use); Expected total benefit."<sup>53</sup>

The report generated a graph of the cost-effectiveness of all fifteen alternatives:

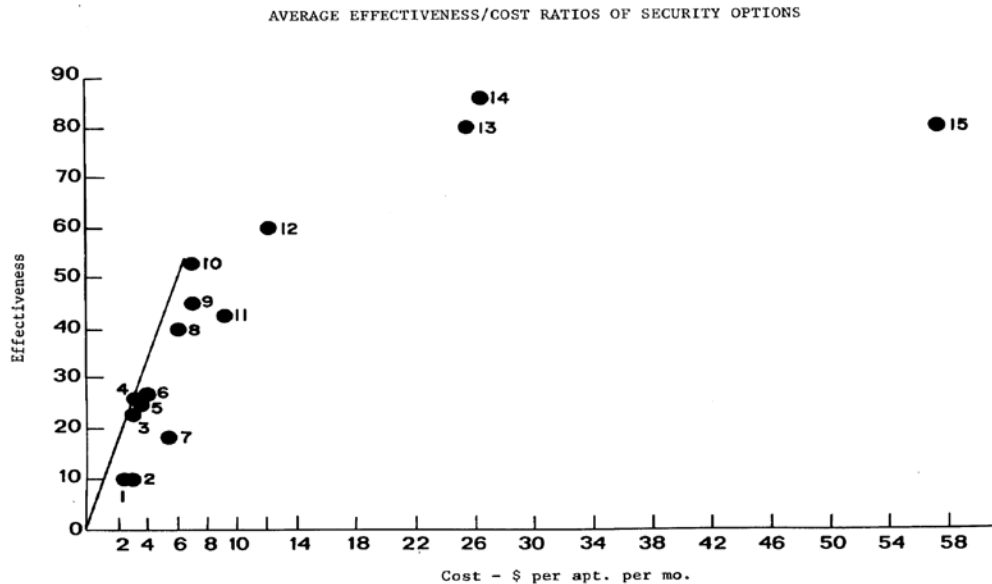
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<sup>50</sup> Michael I. Liechenstein, *Reducing Crime in Apartment Dwellings: A Methodology for Comparing Security Alternatives* (New York, NY: The New York City-Rand Institute, June 1971) P-4656.

<sup>51</sup> Liechenstein, *Reducing Crime in Apartment Dwellings*, 1971, p. 3.

<sup>52</sup> Liechenstein, *Reducing Crime in Apartment Dwellings*, 1971, p. 5.

<sup>53</sup> Liechenstein, *Reducing Crime in Apartment Dwellings*, 1971, p. 6.



The fifteen different measures ranged the political spectrum—from education for low-income project tenants on issues of criminal offending, preventive measures, and self-defense, to providing recreational facilities for poor urban teenagers, to offering subsidies and other positive financial incentives to poor tenants, to raising admissibility and tenure standards for housing assistance, to increasing police presence. They included everything from education, to recreation, to target-hardening, to policing. Based on the quantitative analysis, the report concluded that the most cost-effective preventive measure was an increased police force and more guard-manning.

This was, one could say, the pinnacle of systems analytics in relation to the criminal justice system. For RAND, the “criminal justice system” was a natural space for systems analytics. To be sure, part of the attraction of systems analysis talk at an institution like the New York City RAND Institute was an artifact of the consultancy business; and the NYC RAND Institute in fact folded in 1975 amidst significant—I might add, ironic—controversy over Lindsay’s profligate spending on consultants.<sup>54</sup> But nevertheless, the notion of “the criminal justice system” would stick and the systems analytic approach would become increasingly important. It would lead to a whole set of institutions and think tanks, across the political spectrum, that would take as its object the

<sup>54</sup> Light, *From Warfare to Welfare*, 2003, p. 74.

criminal justice system—such as the Vera Institute of Justice, the Urban Institute, the Institute for Law and Justice, the Police Foundation, the Police Executive Research Forum, to name a few. These organizations would centrally embrace the notion of “systems.” The Vera Institute’s very logo is “Making justice *systems* fairer and more effective through research and innovation.”<sup>55</sup> And systems analytic types of methods and reasoning would continue to develop, including importantly in cases like the COMPSTAT approach in New York City.

Today, the idea that there is a “criminal justice system” has become so dominant that practically everyone thinks about crime and punishment through a systems analytic lens and uses the language and logic of systems in a natural and reflexive way. We are so deeply entrenched in this view of criminal justice that it is practically redundant to observe that we conceive of the area in terms of a system. It is practically impossible today to work or speak in the area without referring to it as the “criminal justice system.” The systems approach that crystalized in the 1960s dominates our way of thinking about the field today.

### C. CJS-Systems Analysis in Context

Systems analytic reasoning in the area of criminal justice fits within a family of consequentialist justifications, insofar as it focuses on affecting an outcome (for example, crime reduction, efficient population management, etc.) It may be important to distinguish between different approaches here that bear family resemblances:

1. Behavioral prevention theory, namely the idea that the goal of the criminal sanction is to reform the individual so that he is no longer dangerous (rehabilitation) and to protect the society by a mixture of incapacitation and treatment of the offender.
2. Utilitarian deterrence theory, namely the idea that the goal of the criminal sanction is to deter the individual offender (specific deterrence) and to deter other potential offenders through the sanction.
3. Crime control systems analysis, namely the idea that the goal of the criminal sanction is to reduce crime using the most cost-effective means.

Each of these is outcome oriented in the sense that they each are intended to maximize or at least promote a social good—by contrast, say, to a retributive theory that seeks only to punish someone as a just desert for a wicked act. In this sense, they are all sub-types of utilitarianism. But the third, systems analysis, is more capacious and less means driven, less wedded to any particular mechanism (particular treatments or forms of deterrence). Systems analysis, in a sense, is the umbrella theory under which *both* behavioral and traditional deterrence policies could be implemented. From a systems

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<sup>55</sup> See The Vera Institute of Justice’s homepage at <http://www.vera.org/> (emphasis added).

analysis perspective, both the behavioral and deterrence theories jump the gun: for a systems analyst, the question is to figure out *which* treatment is the most cost-effective.

Now, the systems analytic approach could be called, broadly speaking, “utilitarian” in the sense that it is effectively trying to maximize a welfare outcome. But I think it would be fairer to say, instead, that systems analysis is a subset of a utilitarian framework, since the systems analysis approach does not set, as its objective, to maximize social welfare, but rather to most efficiently achieve the objectives associated with a system. It does not weigh that or those objectives against other social *desiderata*. It does not concern itself with the question how crime reduction, say, compares to cancer research, to highway construction, etc., so long as the latter are not policy alternatives that are being considered and compared in the analysis. Systems analysis, in effect, shoots for a *partial equilibrium* limited to the specific objective that is identified. It does so using a utilitarian logic, but does not reach the level of a general welfare calculus.

In other words, systems analytic approaches are agnostic as to the preferable method or technique of punishment *ex ante*. But they are not agnostic to the type of good, the specific utility, that they pursue. They are not reducible to a general welfare function. In this sense, they target a particular policy space. And they can lead to utilitarian methods of deterrence, to behavioral instruments of incapacitation, or to rehabilitation. All that matters is that the methods chosen and the outcome—the highest ranked of “The Promising ALTERNATIVES”—are implemented.

### III. THE INFLUENCE OF SYSTEMS ANALYSIS ON CRIMINAL LAW AND CRIMINAL PROCEDURE

The influence of systems analysis in the field of law, writ large, is a complicated matter that would require lengthy treatment and would lead us astray from the focus of this article—namely, criminal law and criminal procedure. At the broadest level, the idea that the field of law could be usefully understood through the lens of a “legal system” percolated through Anglo-American legal thought for centuries.<sup>56</sup> The use of biological systems metaphors was prominent in the nineteenth century on the Continent.<sup>57</sup> And in

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<sup>56</sup> See, e.g., Lord Chief Justice Wilmot’s declaration, in *The King against Almon* (1765), to the effect that “we must take the whole [legal] system [of justice] together, and consider all the several parts as supporting one another, and as acting in combination together, to attain the only end and object of all laws, the safety and security of the people.” Sir John Eardley Wilmot, *Notes of Opinions and Judgements Delivered in Different Courts [1757-1770]* (London: Luke Hansard, 1802), pp. 258-259. Of course, the simple metaphor of a “system” to describe natural and social phenomena went as far back as Plato, who used a biological system metaphor in describing his utopic vision in *The Republic*; Leibniz also incorporated a system metaphor in his metaphysics in the *Monadology*.

<sup>57</sup> According to Rottleuthner, the modern use of the system metaphor in legal thought should be traced to biological metaphors used by nineteenth century legal historians and theorists such as Savigny, Jhering, Van Krieken, and Otto Gierke (though Rottleuthner is careful to note that he has included these thinkers as representatives of a trend, not the originators of the metaphor). Savigny, for instance, argued that law develops “from inner force and necessity, independently of chance and individual will” (quoted in

the twentieth century, the metaphor of systems continued to play an important role in legal thought, as reflected in the writings of Niklas Luhmann and the emergence of autopoiesis theory,<sup>58</sup> which drew in large part on Parsonian systems analysis.<sup>59</sup>

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Rottleuthner 1987, 103). Jhering spoke of “the legal institutions as ‘the skeleton of the law’ (1852: 36), or [referred to] the heart, blood, arteries or pulse of the legal organism (1853: 44)” (Rottleuthner 1987, 103). (Rottleuthner notes that van Krieken, in 1873, traced the origin of the metaphor in its current usage to Schelling and Fichte).

<sup>58</sup> Note: explore further the relationship and decide how much to discuss more recent literature on the notion of the legal system as an “autopoietic” system, much of which is focused on explaining the “unity”—or partly “closed” character—of legal systems, and the survival of that “closedness.” Niklas Luhmann is a central theorist of this view, and so is Gunther Teubner. See also George Fletcher, *Paradoxes in Legal Thought*, 85 *Colum. L. Rev.* 1263 (1985). The autopoietic metaphor seems to differ somewhat from earlier metaphors. Rottleuthner suggests that part of the difference lies in the explicitly unitary metaphor of autopoiesis (in which the legal system is conceptualized as a single, unitary object that is its own causal mechanism) in contrast to older metaphors, exemplified by Kant’s notion of “organized being,” that use a relation between part/whole as a causal mechanism (the Kantian perspective, Rottleuthner argues, is somewhat closer to the metaphor’s usage by 19<sup>th</sup> century historians than contemporary autopoiesis). According to Teubner, theories of the autopoietic legal system maintain that “circularity is not a flaw in legal thinking which ought to be avoided (Fletcher, 1985: 1263), but rather that the reality of law consists of a multitude of circular processes....The whole legal system is seen as a dynamic cyclical reproduction of legal elements embedded in hypercyclical relations of legal structures and processes (Teubner, 1987a). Law, like other autopoietic systems, is nothing but an ‘endless dance of internal correlations in a closed network of interacting elements’ (Maturana, 1982: 28).” (Teubner 1987, pp. 1-2). Legal autopoiesis is not simply created and perpetuated through a system of norms, nor actors and organizations, but through “legal acts,” defined as “those communicative events that change legal structures” (Teubner 1987, p. 4). As Luhmann notes, “This [dialogue] means that the self-reproduction of law takes the form of change of law, of the transference of the quality of normative validity to partially new expectations” (Luhmann 1987, p. 17). The dialogue between norm and action is connected to a further relationship between what Luhmann calls the “closed” and “open” aspects of the legal system. The legal system is ‘*normatively*’ closed, but ‘*cognitively*’ open. Thus the legal system Luhmann describes is both open and closed; it is in constant flux between its norms and the (only partially successful) application of those norms to everyday behavior.

<sup>59</sup> Here too: need to explore and figure out how much to say about Parsons and its relationship to technical systems analysis. Develop further. See Talcott Parsons, *The Social System* (Glencoe: The Free Press, 1952) and *Essays in Sociological Thinking* (Glencoe: Free Press, 1954) (applying structural-functional social systems analysis to theoretical and practical problems); see also Parsons and Edward Shils, “Values, Motives, and Systems of Action,” in *Toward a General Theory of Action* (New York : Harper & Row, 1951); David Lockwood, “Some Remarks on ‘The Social System’,” *The British Journal of Sociology* (7) no. 2, 1956: pp. 134-146; Robert K. Merton, *Social Theory and Social Structure* (1949). Note that in his *Essays* (1954), starting on page 228, Parsons provides a concise explanation of structural-functionalism: (a) social structures contain “frame[s] of reference”—the way actors are situated in a social environment; (b) a second level of analysis is the relationship between individual and society: “social structure is a system of patterned relationships of actors in their capacity as playing roles relative to one another. Role is the concept which links the subsystem of the actor as a “psychological” behaving entity to the distinctively *social* structure” (1954, 230); (c) patterns of roles are also patterns of *expectations* compelling actors into these roles, and this system of “patterned expectations” forms for Parsons the basis of his theory of “institutions”; (d) institutions necessitate two further aspects: stratification and control of deviance (the latter is a necessity insofar as (i) “spontaneous response to unorganized controls cannot be relied upon” and (ii) “roles and legitimate authority” must be maintained in the interest of the system’s stability (1954, 232); and (e) while individual psychology is important for structural-functionalist analyses, it is primarily of interest insofar as it is shaped by the social system itself—its roles, expectations, institutional functions, etc.

In the specific legal field of criminal law and criminal procedure, however, systems analysis would have a distinct influence because of its direct link to the “criminal justice system.” Just as systems analysis began to crystalize the notion of a “criminal justice system,” a distinct style of judicial decision-making and legal reasoning based on a systems analytic approach would emerge and begin to encroach upon an earlier way of thinking about punishment as a question of sovereign right.

Here too, one could trace a genealogy that would link particular individuals and institutions. The former dean at Harvard Law School, James Vorenberg, who was a formidable figure in criminal law and procedure, worked closely with Alfred Blumstein—respectively, as Executive Director and as Director of Science and Technology of the 1967 President’s Commission on Law Enforcement and the Administration of Justice—to introduce systems analysis into criminal law reform.<sup>60</sup> The 1967 President’s Commission conducted a broad-ranging analysis of the state of the American criminal justice system,<sup>61</sup> and its final report, “The Challenge of Crime in a Free Society,” represented an early model of the application of OR to criminal justice. One of the Commission report’s main accomplishments was precisely to establish “a ‘systems point of view’ as a basic frame of reference, and a better understanding of the ‘hydraulic’ nature of that system.”<sup>62</sup>

As Charles F. Wellford suggests, Vorenberg undoubtedly was a large influence on the Commission’s decision to implement systems analysis, as was “the decision of the Attorney General and Secretary of Defense to allow the Institute for Defense Analysis, and in particular Alfred Blumstein, to be a part of the President’s Commission.”<sup>63</sup> Also important was Harvard Professor Lloyd Ohlin, who had applied systems thought to the American Bar Foundation criminal justice surveys of the 1950s and to much of his work on juvenile justice, prediction, and corrections.<sup>64</sup>

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Thus the structural-functionalist does not seek to analyze individual goals, but broad patterns of goals of multiple individuals.

<sup>60</sup> *The Challenge of Crime in a Free Society*, The President’s Commission on Law Enforcement and the Administration of Justice, 1967. At the time of his appointment to the Commission as Executive Director, James Vorenberg was also the Director of the National Crime Commission.

<sup>61</sup> My dear colleague Norval Morris described it as “the greatest and most effective inquiry into the problems of the criminal justice system that this country has seen.” See “Random Reflections on ‘The Challenge of Crime in a Free Society,’” *Law & Society Review* 2 (2), 1968: p. 282.

<sup>62</sup> Francis X. Hartmann, quoted in “The Challenge of Crime in a Free Society: Looking Back Looking Forward,” Roundtable on Historical Perspectives, June 19-21, Washington D.C., 1997. As Charles Wellford notes, the 1931 Wickersham Commission’s Report on Prosecution, and later Frank Remington’s work on the American Bar Foundation surveys of the 1950s, also used a general systems metaphor in their general approach. See Charles F. Wellford, “Changing Nature of Criminal Justice System Responses and Its Professions,” 1997 Roundtable, p. 65-66.

<sup>63</sup> Charles F. Wellford, “Changing Nature of Criminal Justice System Responses and Its Professions,” 1997 Roundtable, p. 67.

<sup>64</sup> *Ibid.*, p. 59. For illustrations of Ohlin’s use of systems analytic approaches, see, e.g., Lloyd E. Ohlin and Frank J. Remington, “Sentencing Structure: Its Effects upon Systems for the Administrators of Criminal Justice,” *Law and Contemporary Problems*, 23 (3), 1958: pp. 500-503; Lloyd Ohlin, “The Routinization of

In large part, the systems approach was introduced in the 1967 President's Commission as an alternative to experimentation.<sup>65</sup> As Wellford documents, "Vorenberg, Ohlin, Blumstein, and others emphasized the role of [systems] research" because "experimentation is frequently impossible" in the criminal justice arena. Wellford continues:

"So the creation of a model of the system, one that could be manipulated to determine effects, would be a critical first step in understanding how improvements could be achieved. The flow chart was a first step in identifying the components of the system which could be manipulated to determine their effect on the remainder of the system. From this goal of improvement, and in recognition of the difficulty of the experimentation, the Commission moved to introduce not only a concept of criminal justice, but a methodology of system analysis including mathematical modeling as a way to identify and evaluate effective changes."<sup>66</sup>

The 1967 President's Commission is a landmark for locating criminal justice within a "system" and for making recommendations based on the functions and objectives of the system. Systems analysis features prominently in the law reform project in two central respects: first, systems analysis is the method by which the criminal justice system, as a "system," is analyzed and upon which the recommendations are based. The Commission outlines, using as a visual aid complex flow-charts that recall early RAND reports, the entirety of the criminal justice system, the *modus operandi* of its individual subparts, the relative success of each part's performance, its personnel and resource allocation, and recommendations for how institutional practices, resources and personnel might be altered to increase success. Second, as part of these recommendations, the Commission calls for the future implementation of systems analysis at the local level—the level of the subpart—in order to assess future functional needs. Vorenberg, Blumstein, Ohlin, and their colleagues used systems analysis in order to diagnose systemic problems of the criminal justice system, and subsequently recommended that more such analysis be applied in order to continue the practice of diagnosis and the specific kinds of prescription it tends to generate.

Dean Vorenberg also headed up, with his colleague Paul Bator, a distinguished study group of the American Law Institute on criminal justice.<sup>67</sup> That commission was the first survey of its kind in the United States, and it sought to map out the various levels

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Correctional Change," *The Journal of Criminal Law, Criminology, and Police Science*, 45 (4), 1954: p. 402; Lloyd Ohlin, "Validation and Control of Parole Prediction," *The Midwest Sociologist* 12 (1), 1949: p. 9; Richard A. Cloward and Lloyd E. Ohlin, *Delinquency and Opportunity: A Theory of Delinquent Gangs* (Free Press, 1966).

<sup>65</sup> Note: May want to explore here relation of systems analysis to Charles Sabel and William Simon on experimentalist governance.

<sup>66</sup> Wellford, "Changing Nature of Criminal Justice System Responses and Its Professions," 1997, p. 67.

<sup>67</sup> William Glaberson, "James Vorenberg, Watergate Prosecutor's Right-Hand Man, Dies at 72," *The New York Times*, 13 April 2000.

of the American criminal justice system (and “non-system,” as its authors sometimes termed it).<sup>68</sup>

There were, of course, others with OR backgrounds. Associate Justice John M. Harlan II, who was appointed to the Supreme Court in 1955 and would influence much of the Warren Court’s criminal procedure jurisprudence, had “headed up the Eighth Air Force Operations Analysis Section (OAS)” during World War II as part of an effort to introduce OR into U.S. Air Force tactics.<sup>69</sup> Nicholas Katzenbach, who served as Attorney General during President Lyndon Johnson’s administration, headed the Office of Legal Counsel in the Kennedy administration, and taught law at Yale and then Chicago,<sup>70</sup> also had an OR background and would serve as chair of the report of the 1967 President’s Commission.<sup>71</sup>

Although it would be possible to dig deeper into these personal and institutional genealogies, the influence of systems analysis on criminal law and procedure was probably more indirect: Systems analysis was in the air in the 1960s and it was having a direct influence on criminology and the study of the “criminal justice system.” At exactly the same time, there began to be a distinct style of judicial decision-making that rested on a systems analytic approach. This style of reasoning would take two distinct forms.

#### A. *The Internal Approach: Models of the Criminal Justice System*

In one form, the judicial decision-maker or legal scholar considers criminal law and procedure adjudication to be part of the “criminal justice system” and attempts to maximize the objectives of the system.

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<sup>68</sup> Michael D. Maltz, “From Poisson to the Present: Applying Operations Research to Problems of Crime and Justice,” *Journal of Quantitative Criminology*, 12 (1) 1996: pp. 11-12.

<sup>69</sup> Joseph F. McCloskey, “U.S. Operations Research in World War II,” *Operations Research*, Vol. 35, No. 6 (Nov. - Dec., 1987), pp. 910-925. And there were many others, of course. For instance, W. Barton Leach, who taught at Harvard Law School from 1929-1960 and at the Harvard Graduate School of Public Administration from 1954-1969, was involved with Operations Research during the Second World War, when he directed the Operations Analysis Division of the Army Air Force. See Charles R Schrader, *History of Operations Research in the US Army, Vol. I*, (Washington D.C.: Office of the Deputy Under Secretary of the Army for Operations Research, 2006). Leslie H. Arps, who served with Justice Harlan in the Army Air Force Operations Analysis Section and eventually replaced him, worked from 1951 to 1953 as “assistant chief counsel to the New York State Crime Commission during its investigation of mob control of the waterfront.” Dennis Hevesi, “Leslie H. Arps Dies; Founding Member of Major Law Firm,” *The New York Times*, 16 July 1987.

<sup>70</sup> Douglas Martin, “Nicholas Katzenbach, 90, Dies; Policy Maker at ‘60s Turning Points,” *The New York Times*, 9 May 2012.

<sup>71</sup> Michael D. Maltz, “From Poisson to the Present: Applying Operations Research to Problems of Crime and Justice,” *Journal of Quantitative Criminology*, 12 (1) 1996: pp. 11-12.



#### a. Herbert Packer's "Models" of the Criminal Process

Herbert Packer would lead the way in identifying this style of reasoning by describing, in one of the most celebrated (at the time and still today, for many) theoretical interventions, two dominant "models" of constitutional criminal procedure. First presented in his article "Two Models of the Criminal Process,"<sup>72</sup> published in 1964, and then further developed in his book *The Limits of the Criminal Sanction*,<sup>73</sup> published in 1968, Packer described two competing models of judicial reasoning in criminal law and procedure: a crime control model, oriented toward the goal of reducing crime, and a due process model, oriented toward the goal of protecting individual rights.

Although Packer did not explicitly use the term "systems analysis," the models that he identified were unquestionably systems analytic. In his own language and analysis of the crime-control model, for instance, Packer would expressly deploy systems discourse. He wrote, for instance, that "By 'efficiency' we mean *the system's* capacity to apprehend, try, convict, and dispose of a high proportion of criminal offenders whose offenses become known."<sup>74</sup> Modeling itself, from Packer's perspective, was a form of systems thought. As he wrote:

We need to detach ourselves from the welter of more or less connected details that make up an accurate description of the myriad ways in which the criminal process does operate or may be likely to operate in midtwentieth-century America so that we can begin to appraise *the system as a whole in terms of its capacity to deal with the variety of substantive missions we confide to it.*<sup>75</sup>

In this sense, Packer's *Limits of the Criminal Sanction* proceeds from a systems analytic framework. The project starts by identifying a social problem. In fact, the very first paragraph of the book opens with an articulation, clarification, and identification of the "social problem" that the book addresses: "the problem of trying to control anti-social behavior by imposing punishment on people found guilty of violating rules of conduct called criminal statutes."<sup>76</sup> With that social problem in mind, Packer then turns to a form of modeling. Simple modeling, no equations, but modeling nonetheless. The idea is to "begin to see how the system as a whole might be able to deal with the variety of missions we confide to it" and, for this, the approach he takes is "to abstract from reality, to build a model."<sup>77</sup> Packer in fact builds two models, which represent, he suggests, the two poles or extreme points of the "two value systems that compete for priority in the

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<sup>72</sup> Packer, Herbert, "Two Models of the Criminal Process," 113 *University of Pennsylvania Law Review* 1, 1964.

<sup>73</sup> Packer, Herbert, *The Limits of the Criminal Sanction*, Stanford: Stanford University Press, 1968.

<sup>74</sup> Packer, *Limits*, 1968, p. 158 (emphasis added).

<sup>75</sup> Packer, *Limits*, 1968, p. 152 (emphasis added).

<sup>76</sup> Packer, *Limits*, 1968, p. 3.

<sup>77</sup> Packer, *Limits*, 1968, p. 152.

operation of the criminal process.”<sup>78</sup> Packer presents his models as “an attempt to give operational content to a complex of values underlying the criminal law.”<sup>79</sup>

The crime control model, Packer explains, “is based on the proposition that the repression of criminal conduct is by far the most important function to be performed by the criminal process.”<sup>80</sup> In other words, the system objective is crime reduction. This clearly represents a systems analysis of criminal law and procedure that has as its objective crime reduction. The actors in the models include “lawmakers, judges, police, prosecutors, defense lawyers.”<sup>81</sup> And the model rests on an efficiency analysis: “the Crime Control Model requires that primary attention be paid to the efficiency with which the criminal process operates to screen suspects, determine guilt, and secure appropriate dispositions of persons convicted of crime.”<sup>82</sup> The criterion of efficiency has to do with the ability of the process to catch and convict large numbers of offenders.

For this, Packer notes, “There must then be a premium on speed and finality. Speed, in turn, depends on informality and on uniformity; finality depends on minimizing the occasions for challenge.”<sup>83</sup> Packer explains:

The image that comes to mind is an assembly-line conveyor belt down which moves an endless stream of cases, never stopping, carrying the cases to workers who stand at fixed stations and who perform on each case as it comes by the same small but essential operation that brings it one step closer to being a finished product, or, to exchange the metaphor for the reality, a closed file.<sup>84</sup>

The applications of the crime control model that Packer discusses make clear that this is systems analysis. So, for instance, in discussing the question of police misconduct attendant to arrests, Packer rehearses the systems analytic approach. Packer collects and evaluates the most promising alternatives and essentially ranks them ordinally: the “most appropriate” policy ends up being discipline of the offending officer; the second alternative is civil remedies against the police officer; and the bottom (in this case, unacceptable) alternative is suppression of the evidence or dismissal of the case.<sup>85</sup> Packer applies the same kind of analysis, under the crime control model, to issues ranging from investigatory stops under the *Terry* stop-and-frisk rule<sup>86</sup>; the length of detention and interrogation prior to consulting an attorney or notifying family<sup>87</sup>; how coercive

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<sup>78</sup> Packer, *Limits*, 1968, p. 153.

<sup>79</sup> Packer, *Limits*, 1968, p. 154.

<sup>80</sup> Packer, *Limits*, 1968, p. 158.

<sup>81</sup> Packer, *Limits*, 1968, p. 154.

<sup>82</sup> Packer, *Limits*, 1968, p. 158.

<sup>83</sup> Packer, *Limits*, 1968, p. 159.

<sup>84</sup> Packer, *Limits*, 1968, p. 159.

<sup>85</sup> Packer, *Limits*, 1968, p. 178.

<sup>86</sup> Packer, *Limits*, 1968, p. 182-183.

<sup>87</sup> Packer, *Limits*, 1968, p. 187-188.

interrogations may be<sup>88</sup>; the *Miranda* rule<sup>89</sup>; electronic surveillance<sup>90</sup>; and all the steps between charging decisions and pre-trial detention to the determination of guilt, to appeals and post-conviction review.

By contrast to this first model, the due process model that Packer develops is oriented toward a cluster of liberal legal objectives. “Its ideology,” Packer tells us, “is composed of a complex of ideas, some of them based on judgments about the efficacy of crime control devices, others having to do with quite different considerations.”<sup>91</sup> Some of these quite different considerations include the importance of factual accuracy, the value of equality (even for indigent defendants), and a certain skepticism regarding the morality and the utility of punishment. The result is a very different model: “The Due Process Model resembles a factory that has to devote a substantial part of its input to quality control. This necessarily cuts down on quantitative output.”<sup>92</sup>

Whether the due process model is, strictly speaking, a “model” by systems analysis standards is perhaps debatable, in large part because the objectives are so much less quantifiable. Even Packer draws an important distinction between the positive or what he calls “affirmative” nature of the crime control model and the “negative model” of due process.<sup>93</sup> This distinction between positive and negative is important because systems analysis is, by definition, oriented to a *positive* objective. We could imagine that we have here, *sensu stricto*, one systems analysis approach (which explains why Packer also views the crime-control model as ultimately resting on administrative and legislative authority) versus a more legalistic approach that is based on judicial oversight (and here, Packer also places this second model under the authority of judicial power).<sup>94</sup>

But this is all quibbling at the edges. The crime control model is squarely systems analytic, and ultimately Packer himself adopts a crime-control systems analytic view—or what he calls an “Integrated Theory of Criminal Punishment” that includes two maxims, the first of which is that “It is a necessary but not sufficient condition for punishment that it is designed to prevent the commission of offenses.”<sup>95</sup> Packer also includes a blameworthiness condition in order to prevent the punishment of innocent people or

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<sup>88</sup> Packer, *Limits*, 1968, p. 189.

<sup>89</sup> Packer, *Limits*, 1968, p. 193.

<sup>90</sup> Packer, *Limits*, 1968, p. 194-196.

<sup>91</sup> Packer, *Limits*, 1968, p. 163.

<sup>92</sup> Packer, *Limits*, 1968, p. 165.

<sup>93</sup> Packer, *Limits*, 1968, p. 173.

<sup>94</sup> Packer, *Limits*, 1968, p. 173. Incidentally, Packer interprets the Supreme Court decisions (this being 1968) as instruments, predominantly, of the due process model, which he refers to as a more court-centric approach—in contrast to the crime control model which he views as more administrative and policy oriented. See Packer, *Limits*, 1968, p. 239.

<sup>95</sup> Packer, *Limits*, 1968, p. 62.

unjust punishment<sup>96</sup>; the notion of culpability is, in his words, a “*limiting* principle, not a justification for action.”<sup>97</sup>

As Packer states, the goal should be crime reduction: he adopts as his “rationale” for the criminal sanction—i.e., as his objective and guiding principle—“one that pursues the central goal of prevention of socially undesirable behavior, as limited by restrictions of culpability.”<sup>98</sup> In the third portion of the book, *The Limits of the Criminal Sanction*, which consists of material that was not included in the original article on “Two Models of the Criminal Process,” Packer emphasizes that:

The function of the criminal sanction is to help prevent or reduce socially undesirable conduct through the detection, apprehension, prosecution, and punishment of offenders. This is the only function that its rationale permits and this is the only function with which its processes are adequately equipped to deal.<sup>99</sup>

This is, in the end, a systems analytic approach.<sup>100</sup> And it was received as such. Packer’s admirers and detractors recognized the systematic and analytic dimensions of his intervention.<sup>101</sup> And note, of course, that the timing is *perfect*: Packer develops his models at the height of systems analytic thinking, in the mid-1960s, when McNamara was using PPBS at the Pentagon and President Johnson was imposing the method on the full federal government.

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<sup>96</sup> So his second limiting condition is as follows: “It is a necessary but not sufficient condition of punishment that the person on whom it is imposed is found to have committed an offense under circumstances that permit his conduct to be characterized as blameworthy.” Packer, *Limits*, 1968, p. 62. It will entail the maxim that “No one may be subjected to criminal punishment except for conduct.” Packer, *Limits*, 1968, p. 73.

<sup>97</sup> Packer, *Limits*, 1968, p. 66.

<sup>98</sup> Packer, *Limits*, 1968, p. 71.

<sup>99</sup> Packer, *Limits*, 1968, p. 293.

<sup>100</sup> In the third part of his book, Packer addressed the proper scope of criminal law in the context of the regulation of vice, and ultimately weighed in favor of limiting the criminal sanction as a way to render the criminal process more just and efficient. Resting on Sir Robert Peel’s insight that policing reforms require first paying attention to the proper scope of the criminal law, *see* Packer, *Limits*, 1968, p. 365-366, Packer essentially recommended to “the rational legislator” to rethink and carefully refine the scope and extent of the criminal sanction, believing that the criminalization of moral offenses and other “conduct whose potentiality for harm is trivial or nonexistent” did most of the harm to the system. Packer, 1968, *Limits*, p. 246. In this, one can see an affinity with some of William Stuntz’s recommendations in *The Collapse of American Criminal Justice* (Harvard 2011). The goal for the rational legislator would be to rethink the scope of the criminal law “with a view to deciding which uses are relatively indispensable and which might with safety (and perhaps even with some net gain to the public welfare) be restricted or given up.” Packer, *Limits*, 1968, p. 246.

<sup>101</sup> As John Griffiths would write, for instance, “Packer’s article is widely regarded as the most important recent contribution to *systematic thought* about criminal procedure.... Packer sets out to construct an *analytic structure* which comprehends ‘the spectrum of choices that is at least in theory open in fixing the shape of the criminal process.’” Griffiths, “Ideology in Criminal Procedure,” 79 *The Yale Law Journal* 3, 1970, p. 360 (emphasis added).

The same would be true for the leading critic of Packer's models, John Griffiths, who published in the *Yale Law Journal* in 1970 an article entitled "Ideology in Criminal Procedure or A Third 'Model' of the Criminal Process."<sup>102</sup> Griffiths' argument was that Packer's two models were actually both part of a single "battle model" of criminal procedure, and he proposed, for argument's sake, a different model of the criminal process, what he called the "Family Model." But even Griffiths's alternative model can be interpreted through systems analytics: namely, as pursuing a family-oriented objective within a systems theory.

Griffiths argued that Packer's Due Process Model rested on the same assumptions about the function of the criminal law system. Packer's description of the Due Process Model as undermining the efficiency of the process—of being simply inefficient—reflects the unidimensionality of the analysis, Griffiths argued: due process protections "can only be deemed simply 'inefficient' if the values they serve are not included among the substantive goals of the criminal process."<sup>103</sup> As a result, Griffiths argues, Packer's two models were nothing more than two versions of a common "Battle Model":

In the service of this fundamental dogma, Packer consistently portrays the criminal process as a struggle—a stylized war—between two contending forces whose interests are implacably hostile: the Individual (particularly, the accused individual) and the State. His two Models are nothing more than alternative derivations from that conception of profound and irreconcilable disharmony of interest. Since the metaphor of battle roughly suits this silent premise about the nature of the relationship of state and individual reflected in the criminal process, I shall use it to characterize Packer's position: the Battle Model of the criminal process.<sup>104</sup>

Griffiths developed, in his article, an alternative model to the Battle Model, which he called the Family Model—not one, he writes, that he necessarily espoused, but that he offered by way of illustration. That family model assumed, as its premise, that the interests of the various parties are reconcilable and it took, as its concern, "what, speaking broadly, is 'good for' a defendant caught up in the criminal process."<sup>105</sup> The central function of the criminal process, from this perspective, is to improve the overall health of the social unit that is represented by the family. As Griffiths wrote, "it is central to the Family Model that the function of the process involves far more than suppressing certain offenses."<sup>106</sup> Instead, along this dimension, the educational function would be one of the more important: "One particularly important substantive function with reference to

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<sup>102</sup> Griffiths, John, "Ideology in Criminal Procedure or A Third 'Model' of the Criminal Process," *Yale Law Journal*, vol. 79(3), pp. 359-417 (January 1970).

<sup>103</sup> Griffiths, "Ideology in Criminal Procedure," 1970, p. 366.

<sup>104</sup> Griffiths, "Ideology in Criminal Procedure," 1970, p. 367.

<sup>105</sup> Griffiths, "Ideology in Criminal Procedure," 1970, p. 387.

<sup>106</sup> Griffiths, "Ideology in Criminal Procedure," 1970, p. 389.

which any institution can be designed is its educational impact upon those exposed to it.”<sup>107</sup>

It would be possible to think of Griffiths’s model along systems analytic terms: the objective would be the health of the social unit, the family, and various different forms of punishment and process could be evaluated with that criterion in mind. Griffiths had, however, a particular view about the use of the term “model” that I do not agree with. Griffiths argued that the term “model” merely stood for a “perspective” or an “interpretation” of the criminal process.<sup>108</sup> Griffiths rejected the idea that these are, really, models, and argued that Packer himself could not believe “that writ large either would be a functioning system of criminal procedure.”<sup>109</sup> I think that is entirely wrong, and that we are in fact dealing—surely with the Crime Control Model, possibly with the Due Process Model, and, ironically, with Griffiths’s Family Model—with models that should be understood as systems analytic methods.<sup>110</sup>

#### b. Supreme Court Adjudication

In contrast to Packer’s stylized crime control model which utilizes a systems analytic method in the strict sense—comparing alternatives, ranking them, and endorsing the most efficient mechanisms for crime control—judicial decision-making that adopts systems analytics tends to do so more informally. The act of adjudication—especially the way in which issues make their way to the courts and the types of decisions that courts are generally asked to perform (i.e. whether a promising alternative is constitutional or not)—puts a certain limit on a judge’s ability to engage in full-blown systems analysis.

As a result, judges who embrace a systems analytic approach tend to focus on the later stages of system analysis: they will articulate, first, one or more overarching objectives for the criminal justice system—such as, for instance, crime control, security management, or the proper and efficient functioning of the criminal justice system—but then fast forward to the final columns of the analysis and declare that the particular legal practice at issue is the most efficient or a fully efficient and proper way to satisfy the system’s objective. The analysis is somewhat truncated. It rarely engages in rigorous empirical analysis, data collection, modeling, or quantitative analysis. But it functions in the same way, especially at the tail end, and adopts the language and style of system analysis.

It is precisely the systems analytic approach that affords this form of judicial decision-making its neutrality and objectivity. Just as Schlesinger would claim that systems analysis is objective and eliminates moral or normative considerations, judicial

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<sup>107</sup> Griffiths, “Ideology in Criminal Procedure,” 1970, p. 389.

<sup>108</sup> Griffiths, “Ideology in Criminal Procedure,” p. 362 n. 14.

<sup>109</sup> Griffiths, “Ideology in Criminal Procedure,” p. 362 n. 14.

<sup>110</sup> There is, though, another reading of Griffiths that is perhaps more in line with my argument here, namely that the conventional systems analytic approach, focused on crime reduction, in its simplicity ignores other important dimensions, especially political dimensions, of punishment.

reasoning that rests on this approach also claims objectivity and purports to avoid subjective normative judgments. On this view, a particular practice—such as, for instance, jury discretion or stop-and-frisk policies—is viewed as either efficient and necessary to the proper functioning of the criminal justice system or not, but in either case the determination is presented as an objective fact about the practice that does not require normative or moral evaluation. The needs of the system do not lend themselves to subjective assessments or evaluation: the systems analytic approach in adjudication is about reality, a proponent might say, not about morality.

Several of the landmark Warren Court opinions in criminal procedure reflect this internal systems analytic approach. The decision in *Miranda v. Arizona*<sup>111</sup> is an interesting illustration. Chief Justice Warren’s opinion for the Court integrates a systems analysis, not as to the narrow legal question at issue—namely, whether the Fifth Amendment applies to custodial interrogation at the police precinct—but as to the remedy, once the legal issue has been resolved. In other words, once Chief Justice Warren has made the strictly legal decision at the heart of *Miranda*—namely, once he decides to extend the Fifth Amendment right against self-incrimination from the courtroom into the police custodial setting<sup>112</sup>—he then turns, effectively, to systems analytic reasoning to determine the remedy. Though he does not, in fact, collect *all* possible “promising alternatives,” he does evaluate and endorse, on effectiveness grounds, the specific framework of *Miranda* warnings—and then encourages Congress to do the rest:

It is impossible for us to foresee the potential alternatives for protecting the privilege which might be devised by Congress or the States in the exercise of their creative rule-making capacities... We encourage Congress and the States to continue their laudable search for increasingly effective ways of protecting the rights of the individual while promoting efficient enforcement of our criminal laws. However, unless we are shown other procedures which are at least as effective in apprising accused persons of their right of silence and in assuring a continuous opportunity to exercise it, the following safeguards must be observed.<sup>113</sup>

Right here, Chief Justice Warren embeds a partial systems analysis within his remedial discussion. His discussion sounds in systems analysis: it sets out a clear objective, and then evaluates different options, keeping the functionality of the system at the heart of the discussion:

Our aim is to assure that the individual’s right to choose between silence and speech remains unfettered throughout the interrogation process. A once-stated warning, delivered by those who will conduct the interrogation, cannot itself

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<sup>111</sup> *Miranda v. Arizona*, 384 U.S. 436 (1966)

<sup>112</sup> *Miranda*, 384 U.S. at 467 (1966)

<sup>113</sup> *Miranda*, 384 U.S. at 467 (1966)

suffice to that end among those who most require knowledge of their rights. A mere warning given by the interrogators is not alone sufficient to accomplish that end....

Chief Justice Warren then evaluates different promising alternatives as if he is putting them through a model, trying to decipher their individual attributes, in order to compare and rank them:

The presence of counsel at the interrogation may serve several significant subsidiary functions as well. If the accused decides to talk to his interrogators, the assistance of counsel can mitigate the dangers of untrustworthiness. With a lawyer present the likelihood that the police will practice coercion is reduced, and if coercion is nevertheless exercised the lawyer can testify to it in court. The presence of a lawyer can also help to guarantee that the accused gives a fully accurate statement to the police and that the statement is rightly reported by the prosecution at trial.<sup>114</sup>

Notice the systems functionality discourse: Warren's analysis is aimed at ensuring that the system functions properly and effectively—and promises to leave it in place unless and until Congress would provide for, essentially, an equal or higher ranking “alternative.” In the process, Warren is unquestionably activist in setting out the necessary pre-interrogation procedures, going so far as to create, out of whole cloth, a Fifth Amendment right to counsel as opposed to the Sixth Amendment right to counsel (and a right to the appointment of Fifth Amendment counsel if indigent).

The subsequent *Dickerson* litigation, several decades later, would turn precisely on whether Congress's response in 1968—18 U.S.C. § 3501—was more effective than the *Miranda* warnings.<sup>115</sup> This is, essentially, a systems analysis type of question: to resolve it, we need to load both the *Miranda* warnings and the 18 U.S.C. § 3501 procedures into Quade's model and see whether the latter exceed the level of protection afforded by the former. Of this, Warren was clear: “unless other fully effective means are adopted to notify the person of his right of silence and to assure that the exercise of the right will be scrupulously honored, the following measures are required.”<sup>116</sup>

Note that the systems analytic material, in the *Miranda* decision, does not address the legal issue at hand—namely the extension of the Fifth Amendment right to police custody—a legal question that is resolved through a far more extensive, capacious, and wide-ranging discussion of policing and democracy in the modern era, and that ranges from Lord Devlin's writings and English procedure since 1912, to India, Ceylon and

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<sup>114</sup> *Miranda*, 384 U.S. at 469-470 (1966)

<sup>115</sup> See discussion of *Dickerson* and empirical evidence on *Miranda* in Tracey L. Meares and Bernard E. Harcourt, “Foreword to the Supreme Court Review: Transparent Adjudication and Social Science Research in Constitutional Criminal Procedure,” 90 *Journal of Criminal Law and Criminology* 733 - 798 (2000).

<sup>116</sup> *Miranda*, 384 U.S. at 479 (1966)



Scotland, to democratic theory. But it is present at the remedies stage. In that sense, it could possibly be thought of more in line with operations research than with systems analysis.

It is interesting to note that Justice Harlan's dissent in *Miranda* also has a systems analytic ring to it. (Recall that Harlan had led the Eighth Air Force Operations Analysis Section during World War II). Harlan focuses on a detailed comparison of the different alternatives along policy grounds: "Viewed as a choice based on pure policy, these new rules prove to be a highly debatable, if not one-sided, appraisal of the competing interests, imposed over widespread objection, at the very time when judicial restraint is most called for by the circumstances."<sup>117</sup> Harlan's Due Process jurisprudence is, in fact, guided by a systemic approach: as he writes, the Due Process Clause cases "show that there exists *a workable and effective means* of dealing with confessions in a judicial manner" and they reveal "the baseline from which the Court now departs and so serve to measure the actual as opposed to the professed distance it travels."<sup>118</sup> Harlan challenges the majority in *Miranda* not only on legal, but on policy grounds, in what sounds very much like systems discourse.<sup>119</sup>

As Daniel Richman suggests, the Warren Court's incorporation doctrine and expanded habeas corpus review, in and of itself, practically demanded a systems analytic approach: by placing itself over an entirely decentralized criminal justice universe—one that extended into the deepest reaches of local and municipal practices, such as local bailbondsmen and sheriffs—the Court practically had to use systems functionality discourse as a necessary heuristic device. One could argue that it was practically inevitable that the Court would think in systems terms once it had to wrap its hands around such a localized criminal justice world.

More recent canonical Supreme Court decisions in the criminal law and procedure area reveal perhaps even more systems analytic reasoning on the core constitutional issues at stake. Justice Powell's opinion for the Court in *McCleskey v. Kemp* (1987) is a good illustration.<sup>120</sup> Justice Powell adopts a systems perspective when he analyzes the role of discretion (prosecutorial, judicial, jury, and other) in the functioning of the criminal justice system—as a counterweight to the legal challenge involving racial discrimination. The opinion is written in a way that includes the judiciary, the jury, the attorneys, etc., as part of the system, and in this sense, represents an instance of the

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<sup>117</sup> *Miranda*, 384 U.S. at 505 (1966) (HARLAN, J., dissenting)

<sup>118</sup> *Miranda*, 384 U.S. at 506 (1966) (HARLAN, J., dissenting)

<sup>119</sup> *See Miranda*, 384 U.S. at 517 (1966) (HARLAN, J., dissenting) ("What the Court largely ignores is that its rules impair, if they will not eventually serve wholly to frustrate, an instrument of law enforcement that has long and quite reasonably been thought worth the price paid for it. There can be little doubt that the Court's new code would markedly decrease the number of confessions... [T]o suggest or provide counsel for the suspect simply invites the end of the interrogation.... How much harm this decision will inflict on law enforcement cannot fairly be predicted with accuracy").

<sup>120</sup> *McCleskey*, 481 U.S. 279 (1987).

internal style of systems analytic decision-making. For Justice Powell, the legal claim itself is a challenge addressed to the very functioning of the criminal justice system:

McCleskey challenges decisions at the heart of the State's criminal justice system. "[O]ne of society's most basic tasks is that of protecting the lives of its citizens and one of the most basic ways in which it achieves the task is through criminal laws against murder." *Gregg v. Georgia* (1976) (WHITE, J., concurring). Implementation of these laws necessarily requires discretionary judgments. Because discretion is essential to the criminal justice process, we would demand exceptionally clear proof before we would infer that the discretion has been abused.<sup>121</sup>

Notice how the system's needs become necessities and how the functioning of the criminal justice system naturally heightens the legal burden imposed on the petitioner McCleskey. The result is that the system's needs are privileged. In rejecting McCleskey's challenge, Powell emphasizes that "McCleskey's argument that the Constitution condemns the discretion allowed decisionmakers in the Georgia capital sentencing system is *antithetical to the fundamental role of discretion in our criminal justice system*."<sup>122</sup>

The analysis is framed in terms of system requirements and system functionality, and so, Powell concludes: "Where the discretion that is fundamental to our criminal process is involved, we decline to assume that what is unexplained is invidious. In light of the safeguards designed to minimize racial bias in the process, the fundamental value of jury trial in our criminal justice system, and the benefits that discretion provides to criminal defendants, we hold that the Baldus study does not demonstrate a constitutionally significant risk of racial bias affecting the Georgia capital sentencing process."<sup>123</sup> From this particular systems analytic perspective, the risk of harm associated with racial prejudice does not undermine the value of discretion to the overall system: "Apparent disparities in sentencing are an inevitable part of our criminal justice system,"<sup>124</sup> Powell observes. Powell's opinion in *McCleskey* is really an idealtype of a decision that takes a systems analytic approach to the criminal justice system. Ultimately, the question ends up revolving centrally around the system's need for discretion.

The Supreme Court's decisions regarding the principle of finality in the habeas corpus context is another good example. The argument for foreclosing consideration of certain issues past a certain point in time (for instance, once the petitioner has entered collateral review) rests predominantly on the argument that there are certain things the criminal justice system *needs* in order to function properly—and one of those is finality. Justice O'Connor's opinion in *Teague v. Lane*, for instance, can serve as an

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<sup>121</sup> *McCleskey*, 481 U.S. at 297 (1987).

<sup>122</sup> *McCleskey*, 481 U.S. at 311 (1987) (emphasis added).

<sup>123</sup> *McCleskey*, 481 U.S. at 313 (1987).

<sup>124</sup> *McCleskey*, 481 U.S. at 312 (1987).

illustration.<sup>125</sup> The question there was whether a habeas petitioner is entitled to the benefit of a new legal rule (in that case, whether the Sixth Amendment fair cross section requirement would apply to a petit jury) if the rule is announced after the petitioner has exhausted his direct appeals and while the petitioner is in collateral review. Justice O'Connor, for the Court, adopted Justice Harlan's retroactivity standard, which barred the retroactive effect of new rules to cases pending in collateral review (with two narrow exceptions).

Justice O'Connor's reasoning tracks perfectly the systems analytic approach. Justice O'Connor begins as follows:

Application of constitutional rules not in existence at the time a conviction became final seriously undermines the principle of finality which is *essential to the operation of our criminal justice system*. Without finality, the criminal law is deprived of much of its deterrent effect.<sup>126</sup>

Justice O'Connor then reviews the cost-effectiveness of the alternative policy and finds that it is prohibitive:

The "costs imposed upon the State[s] by retroactive application of new rules of constitutional law on habeas corpus ... generally far outweigh the benefits of this application." *Stumes* (Powell, J., concurring in judgment). In many ways the application of new rules to cases on collateral review may be more intrusive than the enjoining of criminal prosecutions, cf. *Younger v. Harris*, for it continually forces the States to marshal resources in order to keep in prison defendants whose trials and appeals conformed to then-existing constitutional standards. ... We find these criticisms to be persuasive, and we now adopt Justice Harlan's view of retroactivity for cases on collateral review.<sup>127</sup>

This systems analytic approach, interestingly, has also been used in recent scholarship to defend the principle of finality in cases of purported actual innocence. William Baude, for instance, argues that if "courts must allow every prisoner to perpetually pursue claims of innocence, it might push an already overburdened judicial system to the brink."<sup>128</sup> Such a right to not be executed if innocent would render the criminal justice system dysfunctional. Perfect accuracy is not the systems objective, Baude emphasizes: "perfect accuracy is not the goal of the criminal justice system."<sup>129</sup> Notice how the neutral objectives of the system drive the analysis.<sup>130</sup>

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<sup>125</sup> *Teague v. Lane*, 489 U.S. 288 (1989).

<sup>126</sup> *Teague v. Lane*, 489 U.S. at 309 (1989).

<sup>127</sup> *Teague v. Lane*, 489 U.S. at 310 (1989).

<sup>128</sup> William Baude, "Last Chance on Death Row," *Wilson Quarterly*, Autumn 2010, p. 21.

<sup>129</sup> William, 2010, p. 20-21.

<sup>130</sup> Compare and discuss in relation to the extensive investigatory work in James S. Liebman et al., "Los Tocayos Carlos," 43(3) *Columbia Human Rights Law Review*, 711-1152 (2012).

In the death penalty case that I am litigating now, *Doyle Lee Hamm v. Richard Allen, Commissioner of the Alabama Department of Corrections* (Eleventh Circuit, No. 13-14376-P), the central issue is whether the Eleventh Circuit can review the validity of a prior felony conviction from 1978 that was used as an aggravating circumstance to enhance Hamm’s sentence to death in 1987. As a pretty straightforward matter, the prior felony conviction is facially invalid: the plea hearing from 1978 is unconstitutional, on its face, because the circuit judge in Tennessee in 1978 did not inform Hamm of the constitutional rights that he was waiving by pleading guilty, in clear violation of *Boykin v. Alabama*.<sup>131</sup> This problem has slowed the case down to a crawl, and Hamm has been on death row for 26 years in part because of this festering sore—and yet, not a single judge to date has addressed the merits of the argument or read the short, 2,500-word transcript of the plea hearing on its merits, because of the federal system’s interest in finality: the case is a perfect illustration of the situation where the reviewing judges (at the state and federal, trial and appellate levels) have taken a systems analytic approach focused on the purported integrity or functionality of the system itself in order to avoid consideration of the claims on the merits. What the systems analytic approach obviates is a full consideration of the other values regarding the criminal sanction that circulate in society.<sup>132</sup>

#### B. *The External Approach: Deference to the Criminal Justice System*

In another manifestation, the courts view themselves as outside the criminal justice system and instead resolve cases by deferring to the expertise of core actors within the system. A recent illustration would be *Florence v. Board of Chosen Freeholders* (2011) regarding the constitutionality of strip searches incident to jail detention for minor arrests. Justice Kennedy’s opinion for the majority, upholding a policy of prophylactic strip searches, essentially defers to the system’s experts.

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<sup>131</sup> *Boykin v. Alabama*, 395 U.S. 238 (1969).

<sup>132</sup> Cases involving the practice of plea bargaining also often tend to rely on this systems analytic style of reasoning. A good illustration is Justice Kennedy’s opinion in *Missouri v. Frye* (2012), finding defense counsel ineffective for failing to present a defendant with a written plea offer before it expired. The language there is heavy on system needs: “The reality is that plea bargains have become so central to the administration of the criminal justice system that defense counsel have responsibilities in the plea bargain process, responsibilities that must be met to render the adequate assistance of counsel that the Sixth Amendment requires in the criminal process at critical stages,” Kennedy writes. “Because ours ‘is for the most part a system of pleas, not a system of trials,’ it is insufficient simply to point to the guarantee of a fair trial as a backstop that inoculates any errors in the pretrial process.... In today’s criminal justice system, therefore, the negotiation of a plea bargain, rather than the unfolding of a trial, is almost always the critical point for a defendant.” *Missouri v. Frye*, 132 S.Ct. 1399, 1407 (2012). Many other areas of habeas corpus litigation produce an internal systems analysis. Justice Thomas, writing for the Court in *Ryan v. Gonzales* (2013) and ruling that there is no right to competence during federal habeas proceedings, states: “Because federal habeas is ‘a guard against extreme malfunctions in the state criminal justice systems,’ not a substitute for ordinary error correction through appeal,” the types of errors redressable under § 2254(d) should be apparent from the record. *Harrington v. Richter* (2011) (quoting *Jackson v. Virginia* (1979) (Stevens, J., concurring in judgment)).” *Ryan v. Gonzales*, 133 S.Ct. 696, 708 (2013).

Justice Kennedy's opinion in *Florence* opens on a particularly strong systems analytic tone. The first two sentences of the opinion read: "Correctional officials have a legitimate interest, indeed a responsibility, to ensure that jails are not made less secure by reason of what new detainees may carry on their bodies. Facility personnel, other inmates, and the new detainee himself or herself may be in danger if these threats are introduced into the jail population."<sup>133</sup> Kennedy's opinion emphasizes the closed-nature of the jail system,<sup>134</sup> and in rejecting the argument for constitutional limits on strip searches, Justice Kennedy writes that any such limits would vitiate the objectives of the system: "The laborious administration of prisons would become less effective, and likely less fair and evenhanded."<sup>135</sup> Justice Kennedy's decision is guided by a systems analytic approach:

"The difficulties of operating a detention center must not be underestimated by the courts.... Maintaining safety and order at these institutions requires the expertise of correctional officials, who must have substantial discretion to devise reasonable solutions to the problems they face."<sup>136</sup>

Justice Kennedy marshals and quantifies the risks to the jail system, and then defers to the systems experts: "In addressing this type of constitutional claim courts must defer to the judgment of correctional officials unless the record contains substantial evidence showing their policies are an unnecessary or unjustified response to problems of jail security."<sup>137</sup>

Justice Kennedy's decision in *Maryland v. King* (2013), upholding the use of DNA evidence against a person charged with sexual assault where the DNA sample had been taken as a matter of routine booking on another arrest, provides another illustration. Justice Kennedy opens his legal analysis with the following systems analytics:

the utility of DNA identification in the criminal justice system is already undisputed. Since the first use of forensic DNA analysis to catch a rapist and murderer in England in 1986, law enforcement, the defense bar, and the courts have acknowledged DNA testing's "unparalleled ability both to exonerate the wrongly convicted and to identify the guilty. It has the potential to significantly improve both the criminal justice system and police investigative practices."<sup>138</sup>

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<sup>133</sup> *Florence v. Board of Chosen Freeholders*, 132 S.Ct. 1510, 1513 (2012).

<sup>134</sup> *Florence*, 132 S.Ct. at 1515 (2012).

<sup>135</sup> *Florence*, 132 S.Ct. at 1521 (2012).

<sup>136</sup> *Florence*, 132 S.Ct. at 1515 (2012).

<sup>137</sup> *Florence*, 132 S.Ct. at 1513-14. Note that the policy contradicted the best practices of the Federal Bureau of Prisons, the U. S. Marshals Service, the U.S. Immigration and Customs Service, and the U.S. Bureau of Indian Affairs—agencies that all require reasonable suspicion before strip searching minor offenders. Query whether the systems analysis was thorough here...

<sup>138</sup> *Maryland v. King*, 133 S.Ct. 1958, 1966 (2013).

Once this systems view is established, it then does a lot of work. Faced with the Fourth Amendment issue in the case, Justice Kennedy finds that the governmental interest served by the Maryland DNA Collection Act is a core function of the criminal justice system—namely, “the need for law enforcement officers in a safe and accurate way to process and identify the persons and possessions they must take into custody.”<sup>139</sup> It is because of the system’s needs that Kennedy then upholds the DNA sampling. As he writes, the “context of arrest gives rise to significant state interests in identifying respondent not only so that the proper name can be attached to his charges but also so that *the criminal justice system can make informed decisions concerning pretrial custody*.”<sup>140</sup> It is also interesting to note that Justice Scalia’s outraged dissent in *King* essentially dismantles the system functionality analysis of the DNA sampling for identification. Justice Scalia takes apart the systems reasoning of the majority decision.

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These are examples or, better yet, idealtypes of two forms of systems analytic reasoning—the internal and external. They can be found alongside other styles of judicial decision-making. In any particular judicial opinion that relies on systems analytics, they are not necessarily the only reason or style of reasoning used; they may accompany other forms of argumentation; and they are not always decisive.

In closing, to sharpen the idealtype, it may be useful to offer a foil, an example of its opposite. Here we could look to Judge Shira Scheindlin’s opinion in the New York City stop-and-frisk litigation for a contrasting idealtype. At the very beginning of her opinion in *Floyd v. City of New York*, Judge Scheindlin writes:

I emphasize at the outset, as I have throughout the litigation, that this case is not about the effectiveness of stop and frisk in deterring or combating crime. This Court’s mandate is solely to judge the *constitutionality* of police behavior, *not* its effectiveness as a law enforcement tool. Many police practices may be useful for fighting crime—preventive detention or coerced confessions, for example—but because they are unconstitutional they cannot be used, no matter how effective. “The enshrinement of constitutional rights necessarily takes certain policy choices off the table.”<sup>141</sup>

From the outset, Judge Scheindlin sets aside any consideration of the effectiveness or necessity of stop-and-frisk to the criminal justice system. This is not to argue that Judge Scheindlin’s ultimate resolution of the constitutional questions in *Floyd* is automatically correct just because she avoids systems analytic reasoning. We would need a much longer discussion on the merits to decide that question. The only point here

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<sup>139</sup> *Maryland v. King*, 133 S.Ct. at 1970 (2013).

<sup>140</sup> *Maryland v. King*, 133 S.Ct. at 1980 (2013) (emphasis added).

<sup>141</sup> *Floyd v. City of New York*, \_\_ F. Supp.2d \_\_ (2013) (2013 WL 4046209) (S.D.N.Y.), Slip op. at p. 2.

is that systems analytics are effectively off the table and the notion of a “criminal justice system” has been bracketed.

#### IV. A CRITIQUE OF SYSTEMS ANALYSIS

There are, in my opinion, problems with this systems analytic approach in criminal law and procedure. But to understand them best—to understand them technically—we have to return first to the specific, technical area of systems analysis and see where it went wrong.

##### A. *The Problem with Systems Analysis*

Systems analysis inverts the relationship between means and ends: It subsumes social values and goods (such as education, health care, transportation, or security) to a calculus that converts them into mere instrumentalities of policy decision-making. Instead of systems analysis serving as a tool to ensure the proper implementation of social ideals, systems analysis reshapes and distorts those very ideals and values—“distorts” in the sense that it affects the balance of values in our society without openly engaging, debating, confronting, or negotiating the very shift in the balance of ideals that the method brings about. There are at least three dimensions to the problem.

First, the systems analytic approach assumes the fungibility of policy alternatives regardless of the different values that they embody and reflect. As a result, the systems analysis approach ignores the implications of policy choice on social ideals. In this regard, the approach produces a radical inversion of politics—which can be illustrated well by Quade’s observation, earlier, that “education, antipoverty measures, police protection, and slum clearance may all be alternatives in combating juvenile delinquency.”<sup>142</sup> Notice in this statement how a narrow objective—here, combating juvenile delinquency—ends up taking priority over forms of implementation that have fundamentally different values, such as an educated citizenry and a robust public sphere (“education”), political and economic equality or equality of opportunity (“antipoverty measures”), political freedom, security, and civil liberties (“police protection”), as well as urban politics and planning (“slum clearance”). An innocent and narrow objective (combating juvenile delinquency) has turned these different values into mere instrumental goods. It has displaced political contestation. It has imposed, under the veil of neutral, objective, positivistic science, a mechanism that will produce its own value outcomes.

The trouble is, the set of alternative policies cuts across multiple social ideals and visions, and as a result, the policy output, if it is implemented, will necessarily *affect and shape* the society we live in, its ideals and its values. It converts political goods—an educated citizenry (education), equality (antipoverty measures), and security (police

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<sup>142</sup> Quade, *Systems analysis techniques for planning-programming-budgeting*, 1966, p. 7.

protection)—into mere levers of public policy, and imposes under a veil of neutrality a new political condition. The traditional fix for this problem—namely, incorporating into the welfare maximizing calculus the weighting of those values (for instance, discounting the benefits of increased policing to reflect the loss of utility associated with decreased liberty interests)—essentially either waters down or, if done robustly, undercuts the systems analytic approach itself.

Second, by selecting more quantifiable objectives and variables, which the method itself demands (for instance, juvenile delinquency rates) rather than larger social values (for instance, youth welfare), or even larger social ideals (such as, for instance, freedom or education), and by focusing exclusively on measurable outcomes, the systems analytic approach privileges the more quantifiable, measurable, and instrumental factors in the analysis. It is always going to be those variables that can be measured more easily (such as arrest rates or convictions or deaths) that are going to be privileged over more qualitative or soft variables. And the fact is, the more easily measurable, quantifiable, and instrumental factors tend to be associated with the harder social systems (such as the military or prison system), rather than education or community stability. As a result, systems analysis itself has a particular tilt that favors certain types of outcomes. Educational alternatives often will get short shrift because of the difficulty of assessing their long-term benefits. Poverty reduction and other “soft” variables will be more difficult to measure in terms of impact and outcomes. The hard edge of the systems analysis approach simply favors hard systems.

Third, systems analysis takes for granted the construction of social problems and the boundaries of social systems, and thereby insulates the formulation of the problem from deeper critical investigation. The method assumes an agreed-upon problem and a shared understanding of its scope—in particular, of the system in question. There is nothing in the model to assess or compare or determine *which* problems society should address. The method thus begins with the collection of promising alternative policies. As a result, the approach shifts attention away from how the social problem has been chosen, constructed, and legitimated, and how prioritizing that particular problem in that social system may affect society. It effectively isolates problem-solving from problem-production, and in the process hinders an open debate over the full consequences of choosing a particular package of social problems to address as a society.

All three dimensions of the problem are illustrated well in the Liechenstein study from 1971, so let’s return there for a moment.<sup>143</sup> Based on the close analysis of the different alternatives, the Liechenstein report found that the most efficient technique was police manning. Policing trumped education or recreation in terms of efficiency.<sup>144</sup> The

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<sup>143</sup> Liechenstein, *Reducing Crime in Apartment Dwellings*, 1971.

<sup>144</sup> The study ultimately suggested that even the most effective security measures—extensive surveillance, increased policing, and posting of armed guards at each building—were too expensive (p. 24), and as a result, did not specifically endorse any of the security measures analyzed. Ironically, the NYC RAND recommended instead more research money for ... RAND. *Ibid.*, p. 25 (“[T]he heuristic methodology that



systems analysis had value effects. And the City ultimately implemented very similar policy solutions, focused precisely on increased policing and manpower. After a 63-year-old woman in a Lower East Side project was killed, Simeon Golar, chairman of the New York City Housing Authority, instituted a “‘100-man mobile task force’ consisting of 40 housing policemen and the hiring of 60 new policemen.”<sup>145</sup> There followed a \$500,000 initiative to hire armed and unarmed guards for the city’s housing projects, as well as a \$1 million allocation for security and surveillance equipment.<sup>146</sup> The increased police manning was also accompanied by stricter judicial sentencing. There was a perceived sense in the media and among politicians that lax judicial practices had contributed to the crime epidemic.<sup>147</sup> These combined policy interventions would fuel increased incarceration in New York State that would contribute, starting in 1973, to what has come to be known today as mass incarceration.<sup>148</sup>

The NYC RAND Institute’s systems analytic approach favored the police and punishment-oriented solutions that were inherently more tangible, measureable, and quantifiable—these were the type of policy levers associated with metrics that were easier to quantify, to collect, to code, and to regress. This is, after all, natural; it is far easier to quantitatively study criminal justice metrics (such as arrests, searches, convictions, or police force) than it is to study the long-term consequences of education, poverty-relief, or neighborhood trust.

Other illustrations abound in other contexts. Here is an illustration from the clean air context: a study conducted by Daniel Klein titled “Fencing the Airshed: Using Remote Sensing to Police Auto Emissions,” and published in a collection called *The Half-Life of Policy Rationales: How New Technology Affects Old Policy Issues* in

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we have presented here is further testimony to the paucity of formalized design procedures for translating security goals into detailed system requirements. The present crime situation has created an undeniable demand for quantitative models which can account for behavioral and sociological phenomena which can adequately predict the impact of security measures on society, and which can clarify our presently fuzzy notions of what security really means.”) Nevertheless, the City implemented the policies that topped Liechtenstein’s study.

<sup>145</sup> “Golar Acts to Bolster Security in City Projects,” *The New York Times*, November 18<sup>th</sup>, 1971.

<sup>146</sup> Edward Ranzal, “Guards to be Hired to Protect Vest-Pocket Housing Projects,” *The New York Times*, April 18<sup>th</sup>, 1973.

<sup>147</sup> This was reflected well when, in 1971, New York City Police Commissioner Patrick V. Murphy made public statements that courts “must accept the giant share of the blame” for the rise in city crime, arguing that “the courts let too many criminals go free and gave others sentences that were too light. He said the whole judicial system was lax, unjust, inefficient and ‘in bankruptcy.’” Eric Pace, “Murphy Indicts the Courts for Rise in City’s Crime,” *The New York Times*, December 21<sup>st</sup>, 1971. Murphy made news a little over a week later when he reorganized the police department to delegate the investigation of murders and robberies to “specialized squads.” Pace, Eric, “Murphy Revising Duties for 25,000,” *The New York Times*, December 30<sup>th</sup>, 1971. Criticisms of the court system were coupled with calls for tougher punishment. Judges were perceived as letting too many individuals get away with light sentences. Deputy Inspector William R. Bracy, at a Harlem task force meeting, complained that “My hands are tied by the court system. Many cases go out of the window because of the policy of judges in their ivory towers.” Rudy Johnson, “Police Problems Heard in Harlem,” *The New York Times*, January 18<sup>th</sup>, 1973.

<sup>148</sup> NYSDOCS data; see also <http://assembly.state.ny.us/Reports/WAM/Perspectives/199803/>

2003.<sup>149</sup> The narrow objective in that study is to reduce pollution through lower auto emissions—again, the problem itself and the fact that it demands our attention and resources has been assumed. The analysis collects a number of alternative policies without much regard for the social implications of each, including “carpooling programs, emissions requirements on new cars, electric vehicle quotas, and alternative fuel mandates,” as well as emissions inspection testing.<sup>150</sup> Notice that these have different valences, but that the alternatives are nevertheless made fungible. Most of these alternatives involve a command-and-control approach.

According to the study, however, cost-benefit analysis reveals a more efficient alternative: policing auto emissions using “remote sensing” technology. The basic components of such an approach would include (1) manned and unmanned remote-sensing units policing the highway, accompanied by automatic license plate readers; (2) monetary fines imposed on gross polluters, with the added sanction of vehicle impoundment; and (3) “on-road pullover teams” that would stop “on the spot” cars exhibiting “a suspicious feature,” “subterfuge or rank noncompliance.”<sup>151</sup> Upon close analysis, the report finds that this latter alternative is indeed the most cost-efficient: “Besides offering lower costs, the remote-sensing approach delivers more air quality benefits than do smog check and other command-and-control policies.”<sup>152</sup> So rather than regulate the auto industry or provide it with incentives to produce lower emission cars, or impose energy regulation, the optimal approach is to police the highways more. No need for licensed inspection stations, cumbersome regulation, or the like. Pullover teams and unmanned policing units will do the job better. “The likely result,” in Klein’s words, “is less bureaucracy and cleaner air.”<sup>153</sup>

But notice, again, how the objective policy-machine here ends up having important effects on society and directly affects the balance of values such as liberty, equality, wealth distribution, civil rights, etc. The public policy analysis, it turns out, *changes our environment—it shapes our society*. In the Klein study, the country may be saddled with a far greater number of highway patrol officers, which may or may not reflect our values. (And of course, the political effects can go either way. The policy outcome could be single-payer universal health care, more public education or Head Start programs). In sum, by taking for granted the construction of the social problem, by choosing a narrow, quantifiable objective, by focusing on more measurable outcomes,

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<sup>149</sup> Daniel Klein, “Fencing the Airshed: Using Remote Sensing to Police Auto Emissions,” in *The Half-Life of Policy Rationales: How New Technology Affects Old Policy*, eds. Fred E. Foldvary and Daniel B. Klein. New York: New York University Press (2003).

<sup>150</sup> Klein, “Fencing the Airshed,” 2003, p. 103.

<sup>151</sup> Klein 2003, p. 98.

<sup>152</sup> Klein 2003, 102.

<sup>153</sup> Klein 2003, p. 103.

and by costing-out “fungible” policies, the systems analytic approach *shapes* our value system without ever having explicitly engaged in debate.

### B. *Demonstration: A Simplified Proof*

Let me demonstrate the problems with the systems analytic approach using as simple and non-technical means as possible—to avoid an opaque model that itself may subtly insert assumptions in the premises of the analysis. I believe this can be done, or at least, that is my burden. This will require a few steps, given that the straightforwardness of the analysis may call for replies and rebuttals.

#### a. *A first cut: Distorting existing preferences*

Let’s say, hypothetically, that Americans in the aggregate would like to distribute their resources in line with their ideals in the following manner: 50% to education, 35% to health care, and 15% to policing. We could map their preferences for clarity (call them “utilities” if you prefer, or “budgets,” or “priorities,” and visualize these preferences by means of the following simple graph:

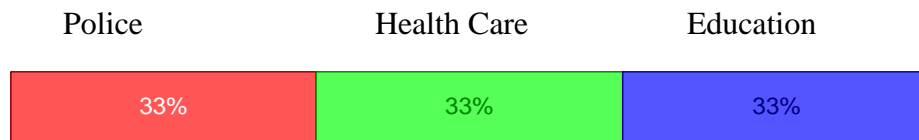


This distribution of goods corresponds, let’s say, to a certain weighting of social values that puts a priority first on an educated and healthy citizenry (let’s call this liberty), and secondly on security and orderliness (let’s call this order). Again, to keep it simple and take only two ideals, we could visualize the relationship as follows. The first values (the liberty associated with an educated and healthy citizenry) are, hypothetically, twice as important as the second set (orderliness and security):

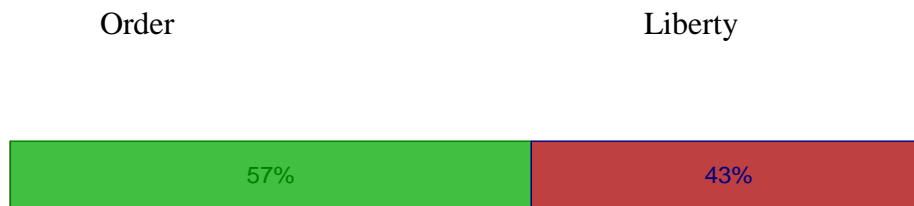


Now let’s say that we pick a social problem—for instance, crime or juvenile delinquency—and we decide to take a systems-analytic approach to the problem. As analysts, we would begin by choosing the corresponding narrow objective—here, reducing crime or juvenile delinquency—an objective that we can all agree on easily once the problem has been posited. We then collect the most promising alternatives to solve the problem. Let’s say, hypothetically, that there are three: (a) investing more in publicly-funded Head Start programs for toddlers; (b) improving pre-natal health care for

pregnant mothers, increasing drug rehabilitation programs, and investing in rapid response emergency room care; or (c) increasing the police force. These alternatives are entirely fungible, in the eyes of systems analysis. Then, we conduct detailed cost-benefit analysis and we find that a similar monetary investment will have the greatest return if the third policy, increasing the police force, is adopted. Based on the analysis, we increase the number of police officers and the police budget to address the social problem. Now, the distribution of political goods has changed, and our budget, or goods allocation, looks something like this:



The redistribution and reallocation of resources, of course, has consequences on what we are privileging in terms of ideals. We are now investing twice as much in policing than we were before, and this has the following consequence on the type of balance of ideals reflected in our society, with order and security now being proportionally more important than before:



By putting aside debate over our values and ideals, and simply focusing on a narrow objective, systems analysis effectively has reshaped our social landscape and modified our prevailing values. It has distorted our original preferences and vision—it has altered the world that we want to live in.

By contrast, a more capacious approach that addresses head-on our initial preferences would seek to keep the social values as the primary driver of policy interventions. That would translate, perhaps, in this case, into a combination of programs that would invest, say, 50% of resources into Head Start programs, 35% into emergency care improvement, and 15% into increased police—in order to *maintain* the balance of values as they were originally, to maintain the earlier balance.

b. *A second cut: Maximizing the wrong thing*

At this point, a proponent of systems analysis might respond that it would be easy to factor in preferences regarding ideals in such a way that the analysis would take full

account of people's values. Let's assume that, as a result of the increased investment in policing, overall social welfare may be lower than what we might have expected from the crime drop, because of a shared distaste for living in more of a police state; in other words, the benefits of reduced crime (or cleaner air in the Klein study) are offset to some degree by the change in police landscape. That, the proponent will say, can be factored into the analysis. The analyst need only include in the model the distaste (disutility) associated with the shift toward a police state. Preferences along these lines can also be measured and quantified, and made part of the overall welfare calculus. The problem, in other words, can be addressed easily by factoring in people's tastes and preferences—which should have been done from the beginning, in fact.

Now, if we etch those preferences too deeply into the analysis, then we will simply be back at square one: We will weight our preferences so strongly that our values will determine policy outcomes. If the analysis is going to factor in our taste for police surveillance robustly—as well as all our other tastes for security, for order, for civil liberties, for equality, for an educated citizenry, and so on—then the model is essentially rigged to produce the outcomes that reflect our social values and judgments. The analysis will reproduce the landscape we want to see realized. What becomes unclear, then, is how deeply to etch our preferences into the model. But the degree of commitment to ideals, the strength of one's convictions and values, can also be measured and included in the model, a proponent might reply. There is no reason to believe that preferences are etched in stone and that there can never be any trade-offs. A new social problem may have effects on the vision that we have for society.

So, proponents of systems analysis might argue, after having incorporated those preferences into the model, a systems analytic approach can find real efficiencies that will actually result in increased welfare and greater utility overall. For instance, systems analysis might find efficiencies, say, by using police to address juvenile crime, that will outweigh the disutility and that would thereby allow us to invest savings into education and poverty-reduction. Even though there may be a shift in ideals, a proponent may argue, Americans will value the end state more. They will gain some orderliness proportionally to liberty, but will be happier overall based on their own tastes, preferences, or utilities.

This is, of course, the welfare economist's response—a type of response consistent, for example, with Louis Kaplow and Steven Shavell's thesis in *Fairness versus Welfare* (2002).<sup>154</sup> In fact, Kaplow and Shavell say precisely this. As they write and emphasize, “The conception of individuals' well-being that we consider, in the tradition of welfare economics, is a comprehensive one. It encompasses not only the direct benefits that individuals obtain from the consumption of goods and services, but also individuals' degrees of aesthetic fulfillment, their feelings for others, and anything

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<sup>154</sup> Louis Kaplow and Steve Shavell, *Fairness versus Welfare* (Cambridge, Mass.: Harvard University, 2002) (previously published in *Harvard Law Review* 114 (2001): 961–1388).

else that they value. What factors are included in well-being—and with what weight—is understood subjectively, in terms of what actually matters to individuals.”<sup>155</sup>

As if anticipating the earlier critique, Kaplow and Shavell add: “An implication of our broad definition is that even tastes for fairness are included: Just as an individual might derive pleasure from art, nature, or fine wine, so might an individual feel better with the knowledge, for example, that vicious criminals receive their just deserts. This view, under which tastes for fairness are counted with a weight to be determined empirically, based on the actual weight, if any, that individuals place on such tastes, must be sharply distinguished from the view of notions of fairness as independent evaluative principles, which is the subject of our critique.”<sup>156</sup> In other words, welfare economics can incorporate peoples’ tastes, preferences and values regarding social and political ideals—and still optimize, i.e. shift policies around in order to find efficiencies that can be reinvested in other political ideals.

This is undoubtedly right, at least at a theoretical level—or, at a minimum, I am perfectly willing to assume that it is right. But the problem is, even from a welfare economist’s perspective, that systems analysis is *maximizing the wrong thing*: it is trying to resolve one particular social problem, rather than trying to maximize general social welfare. In the process, there is absolutely no way to know whether the resolution of that particular systemic problem has increased or decreased overall welfare, or whether there are other policy alternatives regarding other social problems that would do better at promoting overall social welfare. In other words, from an internal perspective—internal to welfare economics—systems analysis is dangerous: it is trying to optimize the wrong objective.

In this sense, it is not necessary to address the details of Kaplow and Shavell’s specific argument about law enforcement,<sup>157</sup> because we can remain at a higher level of

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<sup>155</sup> Louis Kaplow and Steve Shavell, “Fairness versus Welfare: Notes on the Pareto Principle, Preferences, and Distributive Justice,” *Journal of Legal Studies* 32:331-362 (January 2003), at p. 332-333.

<sup>156</sup> Kaplow and Steve Shavell, “Fairness versus Welfare,” 2003, p. 333.

<sup>157</sup> I shall refrain from directly addressing the details of Kaplow and Shavell’s narrower argument as applied to the area of law enforcement (*Welfare versus Fairness*, p. 291-378) since it is not necessary to the discussion here. I will note, however, that Kaplow and Shavell base their discussion on the premise that “From the perspective of welfare economics, the central purpose of law enforcement is to reduce harmful activity” (*id.* at p. 292), and they suggest in their examples that the “best sanction” is one that deters 100% of individuals from committing crime (*id.* at p. 319). Even though they acknowledge that the social welfare evaluation should also include the cost of policing and punishing (*id.* at p. 292), they simplify that premise away (*see id.* at p. 318 n.48 “For convenience, we ignore the cost involved (to hire police and so forth) in achieving a probability of imposing punishment of 25 percent; because this cost will be held constant in our analysis, it will not affect any of the comparisons that we consider;” *id.* at p. 320 [ignoring punishment costs in welfare analysis but not fairness analysis]). As Gary Becker’s work emphasizes, though, the central purpose of law enforcement from a welfarist perspective does not differ from any other area and consists in maximizing social welfare, which does *not* involve “reducing harmful activity” but rather *optimizing* harmful activity: the question is to find the “right” or “efficient” number of rapes and murders, not to reduce them. *See* Gary S. Becker, François Ewald, and Bernard E. Harcourt, “Becker and Foucault on Crime and Punishment” (September 6, 2013), University of Chicago Coase-Sandor Institute for Law &

abstraction. At that higher level, though, it is crucial not to engage in partial welfare analyses by focusing on one social system. That would simply distort overall welfare.<sup>158</sup>

Another way to say this is that systems analysis does not address the question of how a particular social problem, or social system for that matter, becomes the focus of our problem-solving. The problem of crime was turned into a major national issue at a particular moment in history—in about 1964, during Barry Goldwater’s presidential campaign—and would become a key campaign issue for Richard Nixon. In part as a backlash to the Civil Rights movement, and for other reasons as well—including the rise of the anti-War and other social movements, racial conflict, and increased crime rates—crime would become in the 1960s a social problem that would trump others—housing, poverty, public health, etc.<sup>159</sup> But there was nothing natural or obvious about that. Illiteracy, malnourishment, poverty, racism, inequality, homelessness, etc. could also have remained or become more pressing social issues.

In other words, we construct, we produce social problems, we render visible certain social issues, often through a crisis—and we keep invisible other social problems—in a way that then puts onto our counting table particular costs and benefits. It is in the production of problems *as problems* that we produce the possibility of shifting social values. We render visible one problem, while other problems remain invisible and illegible. In the process, we load the systems analysis with very specific concerns that have identifiable implications. We shape the balance of our ideals by means of problem creation. The only way to do systems analysis properly, without causing systemic

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Economics Research Paper No. 654. Kaplow and Shavell’s discussion lacks the hard-headedness of Beckers’ analysis of welfarism, and for that reason is perhaps a bit too simplistic; it does not address the hard case where, because of policing and punishing costs, the optimal welfarist position favors more rapes or murders than the fairness view. Their general theory of welfare versus fairness, however, is useful here.

<sup>158</sup> I believe that this exchange differs from the other critiques that have been leveled at Kaplow and Shavell’s argument; but need to triple check. See Howard F. Chang, “A Liberal Theory of Social Welfare: Fairness, Utility, and the Pareto Principle,” *Yale Law Journal* 110: 173–235 (2000) and “The Possibility of a Fair Paretian,” *Yale Law Journal* 110: 251–58 (2000); Richard Craswell, “Kaplow and Shavell on the Substance of Fairness,” *Journal of Legal Studies* 32:245–75 (2003) (defending a mixed theory that privileges fairness in most cases); Michael B. Dorff, “Why Welfare Depends on Fairness: A Reply to Kaplow and Shavell,” *Southern California Law Review* 75: 847–99 (2002); Richard H. Fallon, “Should We All Be Welfare Economists,” *Michigan Law Review* 101:979 (2003); Kimberly Kessler Ferzan, “Some Sound and Fury from Kaplow and Shavell,” *Law and Philosophy* 23:73–102 (2004); Lewis A. Kornhauser, “Preferences, Well-Being, and Morality in Social Decisions,” *Journal of Legal Studies* 32:303–29 (2003) (challenging the copious definition of well-being that includes fairness); Joseph William Singer, “Something Important in Humanity,” *Harvard Civil Rights- Civil Liberties Law Review* 37:103–130 (2002) (arguing that the authors define fairness improperly, creating a straw-man argument); Jeremy Waldron, “Locating Distribution,” *Journal of Legal Studies* 32:277–302 (2003) (challenging the line between distribution and the authors’ definition of fairness and calling for greater attention to the issue of distribution); Hamish, Stewart, “Persons and Their Well-Being: A Critical Discussion of Kaplow and Shavell’s Fairness Versus Welfare,” *Queen’s Law Journal* 30:1–34 (2004).

<sup>159</sup> Katherine Beckett, *Making Crime Pay*, New York, Oxford University Press, 1997.

distortion, is to do general welfare analysis at the highest and broadest level. Barring that, the analysis is inevitably going to insert error.<sup>160</sup>

c. *The Limited Role of Systems Analysis*

Does that mean, in the end, that there is no role for systems analysis or operations research, or more generally cost-benefit analysis? No. There are a few roles, of course. First, there is an important role for program evaluation: Assessing the effectiveness of interventions remains, unquestionably, necessary. If programs are not contributing to a stated objective, that's important information to have; for example, if broken-windows policing, stop-and-frisk policies, or gun-oriented policing are or are not reducing serious crime, it's important to know in order to decide whether to engage in those enforcement practices.<sup>161</sup> But, second, in terms of comparing programs, cost-benefit comparisons should be limited to a single value dimension. When we compare different crime reduction alternatives, the alternatives have to be in the same register: whether, for instance, hot-spots policing works better than broken-window policing—that would be a fine question to ask.<sup>162</sup> Whether to do 911-style policing or beat policing—that, too, is okay. But whether to invest in the COPS program or in Head Start—that has to be off the table, because it is going to skew our balance of values. In other words, the economic cost-benefit analysis should be modeled on operations analysis, *not* systems analysis. Modeling, statistics, and cost-benefit analyses are fine in the operations research context. It is when they are extended outside of the narrow system being analyzed and encompass other social dimensions that the problems arise. Third, anything beyond the narrow category of operations research (narrowly defined) should be purely informational because it is, after all, skewed: the choice of a particular social problem and narrow objective is far too outcome-determinative. Under no circumstance should such cost-

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<sup>160</sup> In this regard, I tend to agree with the welfare economists: if you go down the path of welfare, it has to be total, not partial. But I confess that, in the end, I am not as democratic: there are certain values and ideals that I am not willing to give up, no matter what my fellow citizens prefer. For the welfare economist, it matters not whether the people's preferences converge, say, on a fascistic outcome so long as it genuinely reflects well-being. That, I think, is a problem. Welfare analysis, in the end, also risks maximizing the wrong thing; and systems analysis surely does. They both should be maximizing our balance of political values, rather than either overall welfare or system functionality. The fact is, there is nothing preventing an efficiency-driven analysis from tending toward a purely authoritarian program. Hypothetically, the quest for perfect efficiency could lead us to a perfectly regimented, militaristic, fascist regime in which the benefits of efficiency outweigh the cost to political ideals among the citizenry. That, I take it, would undermine the very point of our political union. In the end, it's a vision for society that we need to maximize, not the efficient embrace of fungible public policies.

<sup>161</sup> See, generally, Jeffrey Fagan and Garth Davies, "Policing Guns: Order Maintenance and Crime Control in New York" in Bernard E. Harcourt ed., *Guns, Crime, and Punishment in America* (New York, NY: New York University Press, 2003); Debra Livingston, "Police Discretion and the Quality of Life in Public Places: Courts, Communities, and the New Policing," 97 *Columbia Law Review* 551-672 (1997); Fagan on stop-and-frisk.

<sup>162</sup> Although, even here we need to be careful. Even within seemingly similar police operations, for instance, systems analytic evaluations may privilege those strategies that involve more easily quantifiable variables, such as arrests versus community relations.



benefit analysis determine the budget, the planning, or the long-term programming of social expenditures. Those are public decisions.

The systems analyst may be entirely right that there is room for achieving Pareto-optimality here or there; but in that regard, the systems analyst is tinkering at the margin, and narrow systems analysis—or rather, operations research—is no more than a technical, applied skill that corrects for minor inefficiencies that no one would disagree about or contest. In effect, operations research should be understood as nothing more than an applied program in an economics department—not a separate school or division of its own, and certainly not a broad approach to decision-making. In those limited terms, operations research has a lot to contribute.<sup>163</sup>

In the end, the crux of the problem occurs when we expand operations research outside the discrete box where objectives and alternative policies overlap in values—or, to say the same thing, when we chose to compare alternative policies that encompass very different values. In operations research, the analysis focused on military objectives and alternative military policies that overlap with corresponding politico-military values, namely increased military security (offensive or defensive). The moment the analysis extends beyond a single dimension of values, the analysis *inverts* the relationship between policy and politics.

## V. THE PROBLEM IN CRIMINAL LAW AND CRIMINAL PROCEDURE

This critical perspective on systems analysis can inform our view of systems analytic styles of judicial decision-making in the field of criminal law and criminal procedure—along the same three dimensions.

First, the judicial adoption of a systems analytic approach distorts the legal analysis by converting a particular practice into an objective necessity. It cloaks the judicial decision-making in an aura of neutrality and gives the impression that the legal determination is scientific and objective, rather than moral or normative. In the process,

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<sup>163</sup> This is evident if one reads a range of useful and important studies that continue to be produced on technical topics, such as: Karl Inderfurth, “Risk and Safety Stock Management in Production Planning and Inventory Control with Stochastic Demand and Yield,” p. 277-292, or Rainer Kolisch, “Just-in-Time Production of Large Assemblies Using Project Scheduling Models and Methods,” p. 211-224, or Yeon-Chen Liou et al., “A Stackelberg Equilibrium Model for Supply Chain Inventory Management,” p. 319-338, all in Martin Morlock et al. eds., *Perspectives on Operations Research* (Wiesbaden: Deutscher Universitäts-Verlag 2006); or Lawrence Bodin, et al., “Federal Express Sort Facility Employee Scheduling Problem,” p. 333-350, or Feiyue Li, et al., “The Noisy Euclidean Traveling salesman Problem: A Computational Analysis,” p. 247-270, both in Francis B. Alt, Michael C. Fu, and Bruce L. Golden, *Perspectives in Operations Research* (New York: Springer, 2006); or E. S. Lee and P.-F. Pai, “Operations Research in the Design of Cell Formation in Cellular Manufacturing Systems, p. 443-484, in J. C. Misra, ed., *Uncertainty and Optimality: Probability, Statistics and Operations Research* (New Jersey: World Scientific, 2002).

the judicial decision imposes, by means of the practices or policy at issue, a particular balance of values and ideals. By achieving this under the guise of a systems analytic approach, the decision-makers mask the value choices that they are imposing.

To take a concrete case, in *McCleskey*, discussed earlier, Justice Powell treats discretion as a necessary element for the proper functioning of the criminal justice system. Although the Court has not engaged *sensu stricto* in systems analysis—the Court has not identified or compared all the promising alternatives—it is ranking the discretionary practices in question as satisfying the system requirements, as satisfying the “criterion” of the model. In doing so, it is treating “the criminal justice system” as (1) having certain objective needs; (2) needs that can be determined neutrally, without recourse to moral or normative argumentation; (3) by means of an analysis that is not political in nature, but modeled on science. In *McCleskey*, the Court never admits that it is imposing particular social values or engaging in an analysis that involves political choices. In fact, the Court specifically severs the political dimension of the question by suggesting that McCleskey should address his argument to the political branches, not judicial decision-makers: “McCleskey’s arguments are best presented to the legislative bodies,” Justice Powell writes. The clear implication is that the systems analytic justification has avoided political or moral considerations. In Schlesinger’s words, it has dealt with reality, not with morality—though we know that is not true.

Notice, importantly, that the systems analysis in *McCleskey* does not revolve predominantly around crime reduction. Justice Powell has not adopted Packer’s crime control model. The practices in question are not being measured along a criminological dimension. Rather, the question is whether the practices are necessary to the smooth functioning of the system. The objective is the functionality of the system—which essentially represents, for the Court, an objective or neutral stance. Having a functioning “criminal justice system” is, for the Court, an obvious and natural priority that does not seem to trigger an evaluation of social values or ideals. But what the technical examination of systems analysis reveals is that *it is*: the systems framework, the selection of a model, the evaluation along a criterion can *shift* the balance of values in society. And it does so precisely because all the different possible practices are not fungible substitutes that simply promote the system’s objectives or functionality. Practices and policies need to be evaluated in terms of how they are going to distribute and redistribute, or distort the balance of values that we share as a society. Those effects should not occur blindly or by the inadvertent effect of systems analysis.

Second, judicial decision-making that rests on systems analytic approaches tends to select on the more quantifiable objectives and variables, such as crime control, management efficiency, or system functionality, at the expense of higher-order and softer social values, thus privileging the more measurable and instrumental factors.<sup>164</sup> Here too,

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<sup>164</sup> See, e.g., Carol Steiker, “Lessons From Two Failures: Sentencing For Cocaine And Child Pornography Under The Federal Sentencing Guidelines in the United States,” 76(1) *Law & Contemporary Problems* 27-52 (2013) (discussing the quantification bias and errors in federal sentencing); Daniel Richman, “Federal

in the context of the “criminal justice system,” those factors that can be measured more easily—crime related variables, arrest rates or convictions—will get priority over more qualitative or soft variables, such as racial equality. This is partially why, for instance, Packer’s due process model is a watered down version of systems analysis or may not even qualify. It is because those values of legality and fair notice are particularly difficult to quantify, producing a hybrid model that has very little “scientific” traction. It’s too soft to model. This is particularly problematic when we notice, with Malcolm Gladwell, that heterogenous rankings that aspire to be comprehensive are particularly amenable to distortion.<sup>165</sup>

The *Florence* decision is, again, a good illustration. Justice Kennedy is able to and does quantify some of the security risks: “This record has concrete examples,” he writes. “Officers at the Atlantic County Correctional Facility, for example, discovered that a man arrested for driving under the influence had ‘2 dime bags of weed, 1 pack of rolling papers, 20 matches, and 5 sleeping pills’ taped under his scrotum.”<sup>166</sup> The Justices debate a recent study of 75,000 new inmates over a five years period that found 16 instances where a full body search revealed contraband.<sup>167</sup> By contrast, the liberty interests are far less tangible, and as a result, do not weigh equally in the systems analysis. Strip searches often include delousing showers, having to lift your genitals, and being forced to squat-and-cough while someone is peering up you rectum or vagina: those liberty interests are less easily quantified than the raw number of successful searches, even when they are as low as 16/75,000. *Florence* is precisely a case where the more measurable, quantifiable, and instrumental factors associated with the harder social systems—here, the jail system—serve to tilt the analysis in a particular direction. The hard edge of systems analysis, as noted earlier, favors hard systems.

Third, judicial decisions that rest on systems analytic justification tend to take for granted the smooth functioning of the criminal justice system as an overarching objective, thereby insulating the legal analysis from deeper critical inquiry. The approach starts, at the outset, by assuming a consensus surrounding the objective of the system—for instance, promoting the functionality of the criminal justice system, or improving crime control, etc. The consequence is that there is little consideration of the larger question how the objectives of the “criminal justice system” relate to other social processes and values. Systems analytic approaches hinder a full debate over the larger consequences to society. The fact is, though, that taking for granted the objective of a

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White Collar Sentencing in the United States: A Work In Progress,” 76(1) *Law & Contemporary Problems* 53-73 (2013) (discussing the quantification of loss amount in white collar sentencing).

<sup>165</sup> Malcolm Gladwell, “The Order of Things: What college rankings really tell us,” *The New Yorker*, February 14, 2011.

<sup>166</sup> *Florence*, 132 S.Ct. at 1520-21 (2012).

<sup>167</sup> As Justice Breyer explains, “The record further showed that 13 of these 16 pieces of contraband would have been detected in a patdown or a search of shoes and outer-clothing. In the three instances in which contraband was found on the detainee’s body or in a body cavity, there was a drug or felony history that would have justified a strip search on individualized reasonable suspicion,” Breyer’s dissent at page 8.

smooth functioning system of jails, of capital punishment, or of mass incarceration in this country today is itself a position that requires justification.

In the judicial decision-making context, there is another more common critique of systems analytic approaches that applies as well—namely, that the decision makers do not necessarily have the skills, background, knowledge, or time to really implement the type of quantitative analysis necessary to decipher the best alternative, so they tend to guesstimate or “satisfice” and, in the process, simply confirm their personal biases. This is the critique expressed by scholars such as Charles Lindblom, who would coin the idea that policy makers just “muddle through,” and Herbert Simon, who coined the term “satisfice.”<sup>168</sup> These are the critique surrounding the problem of bounded rationality. While they are undoubtedly correct,<sup>169</sup> it is nevertheless important to also focus on the internal critique that starts by assuming, with the proponents of systems analytic approaches, that the method itself can be properly applied.

## VI. A CODA ON MODERN PUNISHMENT PRACTICES: THE CASE OF MASS INCARCERATION

The problem in the area of crime and punishment is, of course, much larger than the narrow issue of judicial decision-making based on a systems analytic approach. The problem goes far deeper, and entails far more troubling social outcomes. Punishment practices more generally, today, are often operationalized through a systems analytic approach: we tend to approach these matters from the perspective of a “criminal justice system,” with its objectives and needs (e.g. crime reduction, population management, etc.), and then pursue policies that most efficiently advance those objectives. In the process, we ignore many other important dimensions.

Mass incarceration—or more appropriately, the hyper-incarceration of inner-city, minority young men—is a tragic example of this. To be sure, it is the product of a complex interaction of micro- and macro-level factors including national and local politics, sentencing reforms, racial discrimination, perceptions of crime, and special

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<sup>168</sup> See Herbert Simon, *Administrative Behavior* 88, 118-22 (4th ed., 1997); Charles Lindblom, “The Science of Muddling Through,” 19 Pub. Admin. Rev. 79 (1959); Charles E. Lindblom, “Still Muddling, Not Yet Through,” 39 Pub. Admin. Rev. 517 (1979); generally Rubin, p. 38-39.

<sup>169</sup> See, e.g., Nate Silver, “In Supreme Court Debate on Voting Rights Act, a Dubious Use of Statistics,” *New York Times*, Five Thirty Eight, March 7, 2013 (available here: <http://fivethirtyeight.blogs.nytimes.com/2013/03/07/in-supreme-court-debate-on-voting-rights-act-a-dubious-use-of-statistics/>).

interest lobbying, over the course of forty years.<sup>170</sup> But systems analysis facilitated the phenomenon, especially at the level of ideas and justification.

The theory of “selective incapacitation”—which would morph into mass incarceration—was originally theorized by the RAND Corporation and developed precisely as a systems “fix” to the excessive cost of the prison system. A few years after the New York City RAND Institute closed its doors, in the early 1980s, RAND established the Habitual Offender Project. That project would focus on the strategy of “selective incapacitation” as a new and promising, cost-effective measure to combat crime.

The idea of selective incapacitation was premised on the empirical observation that a limited number of offenders tend to commit a disproportionately large percentage of offences. If true, and if those individuals could be identified, then in theory it would be efficient to focus on those high-rate offenders and imprison them for longer terms, rather than incarcerate low-rate offenders. The RAND project originated in response to studies of California prisons that revealed, surprisingly, no real differences in prison sentences as between low and high rate offenders. The idea behind the RAND project was to efficiently reshuffle inmate sentencing: By locking up high-rate offenders for longer periods, a state could both reduce its crime rate and simultaneously decrease its prison population. The policy promised budgetary savings *and* reduced crime.

Peter Greenwood, with Allan Abrahamse, issued a RAND report in 1982 that set forth the most fully articulated plan for implementing the strategy of selective incapacitation.<sup>171</sup> Titled “Selective Incapacitation,” the report began as follows: “The American system of criminal justice is now at a crossroad. Deprived of rehabilitation as an organizing theme, pressed by a fearful and dissatisfied public to provide greater protection from violent crimes, saddled with dangerously overcrowded and decrepit prisons, and facing the prospect of severely limited resources to carry out its functions, the justice system is now searching for new ways to control crime.”<sup>172</sup> The report studied the feasibility of one such new way: predicting future dangerousness in order to impose lengthier sentences on habitual offenders. The study then tried to estimate the cost-effectiveness of selecting on dangerousness.

The researchers based their prediction research on self-report surveys from 2,100 male prison and jail inmates from California, Michigan and Texas in 1977.<sup>173</sup> They focused on robbery and burglary offenses, excluding more serious crimes such as murder or rape (given that low-base-rate crimes are so much more difficult to predict) and

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<sup>170</sup> Michael Campbell and Heather Schoenfeld, “The Transformation of America’s Penal Order: A Historicized Political Sociology of Punishment,” *American Journal of Sociology*, Vol. 118, No. 5 (March 2013), pp. 1375-1423.

<sup>171</sup> Peter W. Greenwood, with Allan F. Abrahamse, *Selective incapacitation*. Santa Monica, CA: Rand Corp and National Institute of Justice (U.S.) 1982, p. xx and 92.

<sup>172</sup> Greenwood et al., *Selective incapacitation*, 1982, p. vii.

<sup>173</sup> Greenwood et al., *Selective incapacitation*, 1982, p. xii.

developed a seven factor test to identify high-rate offenders (focusing primarily on prior criminal record, history of drug abuse, and employment history). They assigned each offender a score from zero through seven: a positive response on any one of these seven factors resulted in one point on the offender's score. The resulting score was used to distinguish between low, medium or high rate offenders. When the researchers tested their predictions, they found that their test identified low- and medium-rate offenders with greater ability than high-rate offenders: 91 to 92 percent of those scoring 0 or 1—the lowest possible scores—turned out to be low- or medium-rate offenders; by contrast, only 50 percent of those scoring 5, 6 or 7 turned out to be high-rate burglars or robbers.<sup>174</sup>

Despite the poor results, Greenwood concluded the study on an up-beat note: “Increasing the accuracy with which we can identify high-rate offenders or increasing the selectivity of sentencing policies can lead to a decrease in crime, a decrease in the prison population, or both. Selective incapacitation is a way of increasing the amount of crime prevented by a given level of incarceration.”<sup>175</sup> Even though Greenwood found that predicting future dangerousness was inexact—and five years later would revise the report and issue it with a slightly different title: “*Selective incapacitation revisited: why the high-rate offenders are hard to predict*”<sup>176</sup>—Greenwood nevertheless painted an optimistic picture from what were not very cost-efficient conclusions:

Among California robbers, we found that a selective incapacitation strategy that reduced terms for low- and medium-rate robbers while increasing terms for high-rate robbers could achieve a 15 percent reduction in the robbery rate with only 95 percent of the current incarcerated population level for robbery. An unselective attempt to increase incapacitation effects by increasing terms for all robbers equally requires a 25 percent increase in population to bring about the same 15 percent reduction in crime. Among burglars, the best selective policy required a 7 percent increase in prison population to bring about a 15 percent reduction in crime.

In Texas, we found that additional incapacitation effects would be much more expensive. For robbers it would require a 30 percent increase in incarceration level to achieve a 10 percent reduction in crime. For burglars, a 15 percent increase in incarceration would be required to achieve a 10 percent reduction in crime. This higher cost is due to the low offense rate among Texas inmates.<sup>177</sup>

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<sup>174</sup> Greenwood et al., *Selective incapacitation*, 1982, p. 53.

<sup>175</sup> Greenwood et al., *Selective incapacitation*, 1982, p. xiii.

<sup>176</sup> Peter W. Greenwood and Susan Turner, (1987). *Selective incapacitation revisited : why the high-rate offenders are hard to predict*. Santa Monica: RAND and National Institute of Justice (U.S.), 1987.

<sup>177</sup> Greenwood et al., *Selective incapacitation*, 1982, p. xix.

A close reading of these conclusions reveals that the crime reduction benefits required—in three out of four cases—*increased prison populations*. In effect, the idea of *selective* incapacitation had already morphed into the theory of mass incapacitation. Nevertheless, the Greenwood report had high impact and contributed importantly to the rise and theoretical prominence of incapacitation theory, which undergirded a massive increase in prison populations in the United States.<sup>178</sup> The report was inducted into the operations research cannon of criminal justice—as least, according to Blumstein. In the group of OR missionaries, Peter Greenwood featured prominently.<sup>179</sup>

Greenwood's study, though, smacked more of systems analysis than operations research—which was precisely the problem. It focused on a narrow objective and then evaluated one particular policy alternative that clearly had a distinct political valence, *without addressing the politics*. It is precisely these kinds of systems analysis approaches that are dangerous, because, in narrowing in on a consensus objective, they set aside an open and frank debate about our values and ideals. The analysis miserably failed to consider all of the negative consequences that the practice entailed—and this blindness has continued to plague the topic of mass incarceration. To take but one: the toll on citizenship. There is practically no consideration, today, for what mass incarceration does to the civic engagement of the more than 2.2 million persons held behind bars or to the more than 7 million persons under correctional supervision. Amy Lerman and Vesla Weaver have begun to document some of the more measurable effects of incarceration on public citizenship. They have shown how contact with the correctional system reduces participation in democratic politics and carries with it a “substantial civic penalty”: it produces a large, negative effect on “turning out to vote, involvement in civic groups, and trusting the government,” taking into account the possibility of selection bias.<sup>180</sup> But even here, the studies only consider the more tangible effects, and one can only wonder about the much broader impact of such a massive prison system on the democratic citizenship of large segments of our communities.

This is not to suggest that systems analysis *caused* mass incarceration—nor to suggest that there are no evidence-based systems analytic strategies that could help *reduce* mass incarceration today. The point, instead, is that systems analytic approach do not take a sufficiently holistic approach to society and tend—I emphasize, *tend*—to focus the analyst too narrowly on systems' objectives. So, for instance, today, in the context of decarceration, too many of the outcome-based systems analytic programs focus on the release of inmates with low propensities for “dangerousness,” without examining how the prediction of future dangerousness is coded for race and how these solutions skew even further the racial imbalance in corrections. Similarly, the evidence-based systems analytic strategies focus on the reduction of recidivism, when in fact, it is extremely hard to

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<sup>178</sup> See Bernard E. Harcourt, *Against prediction : profiling, policing, and punishing in an actuarial age*. Chicago: University of Chicago Press, 2007, p. 88-92.

<sup>179</sup> Blumstein, 2007, p. 22; for a review of OR contributions to the criminal justice system, see Maltz 1994.

<sup>180</sup> Vesla Weaver and Amy Lerman, “Political Consequences of the Carceral State,” *American Political Science Review*, Vol. 104(4): 817-833 (November 2010), p. 817 and 827.

realistically affect recidivism. Instead of focusing so intensively on reducing recidivism—the system’s primary focus—it may well be better, rather, to focus on whether these programs reduce the very high likelihood that a reentering convict overdoses or dies. The statistics here are frightening. But those, of course, are not viewed as system needs, and so they do not rank high on the outcome metrics. Could we get it right one day and do systems analysis better? Anything is possible, of course, but the honest answer is: only if we can manage higher-level welfare analysis and do not remain stuck within any particular system, especially the “criminal justice system.”

## CONCLUSION

Extending the method of operations research beyond weapons systems and into broader policy contexts and judicial decision-making has been “radical,”<sup>181</sup> to borrow Edward Quade’s term—radical precisely for the reasons that Quade and his RAND colleagues suggested: the approach takes no position on the relative worth of very different kinds of practices that promote very different kinds of social values. Quade’s pregnant remark that “*education, antipoverty measures, police protection, and slum clearance may all be alternatives in combating juvenile delinquency*”<sup>182</sup> reveals the nub of the problem. The simplicity of the statement exposes the central fault: the systems analytic approach ingeniously *displaces* larger debate over the values that we hold as a society. Systems analysis is an approach that seduces by offering the hope of avoiding the quagmire of partisanship or, in Schlesinger’s words, “morality,” and by focusing our attention on narrow objectives that no one could possibly object to—reducing crime or juvenile delinquency, for instance. It cunningly proposes a disarmingly common sense, neutral, and objective approach. Rather than get caught up in endless debates, we need simply agree on more basic, measurable objectives (with an appreciation of resource constraint), evaluate the different alternative ways of achieving those narrow objectives, and then choose the most efficient alternative.

The systems analytic approach, however, masks rather than avoids value judgments. It does so by privileging and rendering natural certain systems interests, while ignoring the consideration of other social values. And it is at its worst when it stops conversation: when it serves to stop the legal discussion short and prevent countervailing values from ever get named or weighed in the analysis. In the end, the problem with systems analytic approaches is that they do not sufficiently account for all the non-systematic dimensions of the criminal sanction. Taking a systems analytic approach that focuses on management efficiency, crime control, system functionality—or for that matter, on family well-being or liberal legalism—is likely to produce judicial decisions that fail to recognize and account for multiple and important social values. Robust

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<sup>181</sup> Quade, *Systems analysis techniques for planning-programming-budgeting*, 1966, p. 2.

<sup>182</sup> Quade, *Systems analysis techniques for planning-programming-budgeting*, 1966, p. 7 (emphasis added).



citizenship, for instance, may simply fall by the way side because it is not easily quantifiable.

In the end, the evolution from operations research to systems analysis, the extension of systems analysis into government policy-making and, ultimately, into the “criminal justice system,” and the contemporary effects on judicial decision-making and legal thought are plagued with difficulties. The approach is seductively simple and appealing, but it is an approach that maximizes the wrong thing—purportedly fungible practices, rather than our shared values and ideals.